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THE RESPONSIBILITY OF THE PRACTICING PHYSICIAN IN MEDICAL EDUCATION*

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As with other responsibilities, that relating to medical education must primarily begin and continue with one's self, for, after all considerations are reviewed, the successful accomplishments of life are consecutive to adequate preparedness.

A few of the great group of practicing physicians have had the best obtainable equipment in undergraduate training and some of those few have embraced every opportunity in their post-graduate years to make all possible additions to their knowl-

edge of the rapidly progressing art and science of medicine. These men are, almost without exception, outstanding in qualifications for leadership.

A second group have not enjoyed the best of educational opportunities in the brief undergraduate period, but they have been men of ability, fine strength of character and indomitable perseverance, who have overcome early handicaps and forged ahead against frequent obstacles, reaching, in their post-graduate period, astonishing personal success. These, too, like the first group are, almost without exception, the qualified leaders in our medical fraternity.

There are other groups between these two and a final group which all can easily classify. In a final grouping may be found, men of finest and poorest undergraduate equipment, who have, for divers reasons, failed to succeed. Some have been overwhelmed by the influence of their environment. Some, again, have considered the five to eight years of time, together with the attending expenses, a sufficient investment for a medical business equipment and

* Read before the Post-Graduate Conference at Detroit, May 15th, 1928.

NOTE—This paper contributed by Dr. Bruce outlines clearly the policy of The Journal on the matter of Post-Graduate medical education. Dr. Bruce is not only director of Post-Graduate medical education, receiving his appointment from the Board of Regents of the University of Michigan, but he is likewise chairman of the committee of the Michigan State Medical Society which is concerned with the development of the plans for medical Post-Graduate work in this state. Dr. Bruce is also chairman of the publication committee of this Journal. It is apropos that the statements contained in his paper be made at this time following one of the most successful Post-Graduate Conferences ever held in the State of Michigan. Reference is of course to the four-day program already announced, which took place in Detroit under the auspices of the Michigan State Medical Society, the Wayne County Medical Society and the Alumni Association of the Detroit College of Medicine and Surgery.—Editor.

have directed their best efforts to recovering the original investment and compounding the interest thereupon. A further investment of money or interest has been of the most restricted nature.

POST-GRADUATE STUDY WELL BEGUN

This splendid clinic in which we are participating, is a praiseworthy union of interests and forces constituting the first effort for advancing and improving the opportunities for post-graduate study in Michigan. All over the country, meetings of doctors are being held tonight and every night during the year for the purpose for which we are assembled here. We commonly think of their purpose as for the presentation of new ideas and methods in practice, and here, indeed, are new ideas and concepts of disease and treatment advanced. But the great bulk of the work presented, consists in re-consideration and review of long-standing knowledge. To receive and retain in usable shape, the great bulk of medical school teaching is impossible and it is only as the customer, in the form of the patient, makes his demands, that the graduate finds out whether or not he is properly stocked in medical merchandise.

A GROWING SCIENCE

I believe that we shall have made a great advance toward the problem of continued and advanced education of doctors when we agree that neither the science nor the art of medicine can be fully achieved in the undergraduate school. Soundness of judgment is an essential in medical practice. It is seldom inherent but is the result of experience. It should not seem that our duty is done until these perfectly obvious facts are crystallized into a definite answer to the problem which they present. In his address on "The Educational Value of Medical Societies," Sir William Osler says, "There are many problems and difficulties in the education of the medical student but they are not more difficult than the question of the continuous education of the general practitioner; over the one we have some control, over the other none. The specialist may be trusted to take care of himself. The conditions of his existence demand that he be abreast of the times; but the family doctor, the essential factor in the battle, should be carefully nurtured by our schools and carefully guarded by the public."

The Council on Medical Education of the A. M. A. says that post-graduate

teaching is the outstanding medical problem of today. The Michigan State Medical Society and the University of Michigan have joined hands in an attempt at a solution of this problem. In our analysis of the situation, we feel that the mid-west should occupy and hold a very commanding position in post-graduate medical education. With Pennsylvania in leadership in the east and Minnesota in like leadership in the near west, why should not Michigan occupy a similar field with service to a large medical population, not only in Michigan, but in the nearby states and Ontario to the east?

In perhaps no other city of the world, of like size and wealth, are medical resources of the size and character of those in Detroit so little used for medical instruction. Undergraduate affiliations should in no way mitigate against the steady, progressive, intellectual development of that long, more important and more difficult period of medical professional life which begins directly after graduation and ends with the ending of one's professional career.

HARMONIOUS ADVANCEMENT

In no particular will the development of a sound post-graduate program interfere with undergraduate work, here, or in Ann Arbor. Rather, indeed, will the establishment of a community of interests, as contemplated in the proposals of the State Society, make for greater usefulness and added prestige to both our undergraduate medical schools. While accurate figures are not available, we may safely say that it costs the state of Michigan and the city of Detroit a round half million dollars a year to operate its undergraduate medical schools. A great British statesman has said, "Health is a nation's principal asset and the care of a nation's health the first duty of a statesman." Thus, our state has wisely undertaken the education of doctors and the city of Detroit is now carrying an additional burden in its splendid support of the Detroit College of Medicine and Surgery. However, practically nothing is being spent on the graduate for the maintenance of high standards of medical service nor have opportunities been offered him for self-improvement.

The support the state is now offering the Michigan State Medical Society would seem then, a wise economic conservation of medical investment maintaining the integrity of its original four or five years undergraduate subsidy.

METHODS OF EDUCATIONAL EXTENSION

Medical education is extended mainly in two ways. First, by so-called field programs in which county societies lead all local endeavors. These are assisted, from time to time, by the State Society or other extra local speakers or teachers who are prepared in special or general knowledge. The increased opportunity for frequent contacts of men in their local fields is of greatest importance for economic, social and educational values.

The Department of Post-Graduate Medical Education will participate in and supplement this division of work as opportunity may afford and, furthermore, it will be considered an important function of the department to systematically promote and initiate this division of medical education.

In a second and very important way, what has been designated consecutive or academically organized and controlled study courses in Medicine and Surgery, are giving fundamental and substantial results in preparing men for the specialties. An increasing number of the leading specialties are requiring certificates of qualification for their recognized members. For those members of the profession upon whom these requirements are made and also for those interested in advanced knowledge for the greater service it enables them to render humanity, there should be tempting and convenient opportunities for further medical education. In fulfillment of our obligation to the commonwealth and in the cause of medical education, the Committee on Post-Graduate Medical Education for the state of Michigan offers an outline of the more detailed program of further activities now in preparation.

A FORECAST OF PLANS

1. Every possible assistance will be given county societies in their scientific work, including assistance in the arrangement of programs and the supplying of speakers.

2. There will be further development of the present plan of One-Day Post-Graduate District Conferences. These have been found to be increasingly popular and useful.

3. The organization of two and three-day clinical programs, patterned after the present clinic. Where possible, this will be done in connection with hospitals in the larger cities. Flint and Grand Rapids have their programs under way for the early autumn and Ann Arbor will give a Three-

Day Clinic at the University Hospital during the football season.

4. The most common request from our members has been for the two to three-day clinical conferences as outlined above, but there is a considerable number who ask for short, intensive courses ranging from two to six weeks. At the present time, few doctors take more than a day or two at a time, away from their work to attend medical meetings. It is estimated that about 5 per cent take a month or more at yearly intervals. While this number does not seem great, it will, I believe, be greatly increased when attractive opportunities are more readily available. To provide for this group, we have carefully graded courses, two to six weeks in length, now in the process of preparation.

5. It is commonly believed that short cuts to specialties are unwarranted. We do, however, contemplate short period courses to specialists in their specialties, and the gradual development of complete courses for higher degrees.

As you all know, the University has responded to the recommendations of the State Society by the establishment of a special department to co-operate with it, in post-graduate development. As Director of this department, I beg to assure you that any sound educational program which you bring forward, will have our wholehearted support.

REGIONAL ANAESTHESIA AS
APPLIED TO UROLOGY

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Just as spinal anaesthesia is a practice more than forty years old, so other methods for procuring anaesthesia in more or less localized and predetermined areas, have long been in use, their application to special departments of surgery awaiting the will of the specializing surgeon. For many years the spinal method has received enthusiastic support from a few urologists whose reports have been eloquent proof of the value of spinal anaesthesia in their hands, notably in prostatic surgery. Recently Lowsley and others have enlarged the scope of regional anaesthesia as applied to urological surgery, until there is a rapidly growing movement to employ the local or regional methods for procuring insensibility, to the limit of their possibilities.

One can scarcely visit any clinic today, and not be impressed by the rapidly increasing number of major operative procedures which are being carried out with regional anaesthesia. The accumulating facts relative to better mortality rates, reduction of hospital confinement, lessening of postoperative complications, and the undertaking of operations previously considered unsafe, will soon convince any opposition of the wisdom of adopting regional anaesthesia for suitable cases. Naturally, there will remain permanent need for inhalation narcosis.

SPINAL AND CAUDAL ANAESTHESIA

The purpose of this paper is to report our experiences with spinal and caudal or sacral anaesthesia, extending over a period of approximately two years and covering two limited hospital services. The additional time required for the practice of regional and spinal methods, in the absence of anaesthetists trained for this work, and our determination to select patients with a real need of some form of anaesthesia, have kept our list relatively small. For example, one might do caudal injections for all cystoscopies whereas only an occasional case justified its use, due to extreme nervousness, or excessive bladder and urethral inflammation.

SPINAL ANAESTHESIA

A brief resume of the history of spinal anaesthesia explains in part its more recent popularity; only a few of the many pioneer workers are mentioned. Corning in 1885 first suggested spinal anaesthesia, but it is to Bier that credit must be given for introducing it as a surgical procedure. Bier in 1898, used cocain as the anaesthetic agent, and obtained complete anaesthesia of the lower half of the body. The after effects, chiefly severe headaches, giddiness, vomiting and syncope, were so disturbing, that he gave up the method, awaiting the development of some less toxic agent.

In 1904 after Fourneau's introduction of stovain, spinal anaesthesia was again brought before the profession. In the same year Einhorn discovered novocain. It was found to be less toxic than any anaesthetic agent known at that time. After a few trials with novocain, the pioneers in spinal anaesthesia went back to stovain. Some surgeons still used tropacocain, isolated by Giesel in 1891, while a small minority used cocain in weaker doses of "purer" solutions. In the meantime care-

ful experiments were conducted with novocain on the human body and clinical observations actually tended to show that novocain must be preferred to other agents for the induction of spinal anaesthesia. Tiger of Los Angeles reports 10,000 cases of spinal anaesthesia using 1 grain of crystalline novocain, with only two fatalities.

ANAESTHESIA TECHNIC

The method we have used in obtaining anaesthesia is as follows: The site of injection is infiltrated with one-half per cent novocain. A 22 calibre spinal puncture needle is introduced into the spinal canal and from 10-15 c.c. of cerebro-spinal fluid is allowed to escape. This is done to decrease the intra-spinal pressure allowing for the increased activity on injection of the anaesthetic agent. It is thought that because of the increased activity of the choroid plexus due to irritation of the foreign matter, the spinal fluid is increased through raising the intra-spinal pressure. From 2-4 c.c. of spinal fluid is drawn into an ordinary 5 c.c. Luer syringe in which one ampoule or one grain of crystalline novocain has been placed. After dissolving the novocain in the spinal fluid it is injected into the spinal canal. The patient is then placed flat on his back and allowed to stay in this position until complete anaesthesia has ensued.

Particular attention has been given to the type of aspirating needle used. We find that the 22 calibre stainless steel spinal puncture needle is most satisfactory. This needle bends quite easily, decreasing the risk of breaking. An accurate check should be kept of the blood pressure: We take the blood pressure immediately before injection and after anaesthesia has ensued. If a decided change is noted, five minims of adrenalin hydrochloride is administered intramuscularly. This may be repeated. Some consider a blood pressure below 110 systolic, a contraindication for spinal anaesthesia but we have two cases in our series in which the systolic pressures have been 90 and 80 respectively. In both cases no untoward results were noted following the intraspinal injection of novocain.

OTHER METHODS OF REGIONAL ANAESTHESIA

Strictly speaking, regional anaesthesia, as a term, should not include spinal anaesthesia, although close analysis admits the grouping of all methods other than inhalation narcosis, and one must think of

infiltration, field block, caudal injection, sacral block, and the transsacral combination taught by Labat, to complete the list. Individual workers choose for themselves the single method found most useful, or combine several to suit the operative purpose. Thus for suprapubic prostatectomy (in our own field), spinal anaesthesia is ideal but the combination of caudal injection and abdominal wall infiltration or field block is equally good, and one is not justified in doing a spinal injection for cystostomy alone.

Some operators condemn sacral anaesthesia, having experienced failure either in the administration or no response in the operative field; this may be due to ignorance of the anatomy involved; one cannot expect anaesthesia in the scrotum or its contents, from sacral (or caudal) injection. We have seen scrotal operations attempted thus and failure result. Anatomic variations in the lower spine, congenital and acquired deformities, all make the method difficult at times. Our practice is to use sacral (or caudal) block where applicable, resorting to spinal injection if the former proves impossible.

The history of sacral and caudal anaesthesia, the latter term applying simply to injection of the sacral hiatus, is not important. This narrowing of the regional methods, with the development of perfections in technic, we owe to such excellent teachers as Labat who with others has shown how simple and accurate the methods are, and how successful where properly applied. We have found it advisable to employ the Labat type of syringe and needle, their excellent construction being an important adjunct for safety and ease of procedure.

Our statement above, relative to blood pressure readings and the use of adrenalin, applies to sacral methods as we employ them; in addition however, we make it a regular practice to lower the patient's head (Trendelenberg position) just after the anaesthetic has been given, and to keep the patient in this position, if possible throughout the operative period, and sometimes longer. This practice absolutely prevents cerebral anemia, which we have never seen occur, even in the presence of an alarming drop in blood pressure.

As to pre-anaesthetic drugs, such as scopolamin, morphin, atropin, or any combination of these, we are still undecided, having the opinion that often none are necessary, while in some cases, both scopolamin and morphin are of real benefit

and perhaps indispensable. We are aware that in some individuals sufficient insensibility to pain can be secured by this drug combination alone. Atropin is probably never indicated, unless several injections of morphin are used; in such a ninstance it should be combined with the latter in the first injection.

A total of forty cases have been summarized in tables for convenient reference. We have recorded our partial failures, fortunately having had so few as to increase our confidence to the point of regular use of regional anaesthesia, where indicated for difficult cystoscopy, prostatectomy, perineal section and the other procedures which will be mentioned on next pages.

REGIONAL ANAESTHESIA—GENERAL CONSIDERATIONS

Taking the specified types of surgical procedures in urology let us refer again to prostatectomy. In prostatic surgery we may consider the following:

a. Patients are poor surgical risks, often applying for relief at a late stage.

b. Cases coming apparently early as to prostatism, are often poor risks due to age, changes in cardiovascular stability, hypertension, various types of pulmonary disorders, diabetes, syphilis, often with advanced aneurysm.

c. Inhalation anaesthetics are notably kidney poisons; kidney function is the principal item related to prognosis in prostate cases.

Regional anaesthesia, acting upon a limited area, isolates it from vital organs; gives greater relaxation of the bladder neck, and rectal relaxation (of great importance). It adds considerably to operability and has quite definitely decreased mortality rates in our series of cases. In this connection, infiltration or field block are our choice for suprapubic approach to the bladder and in conjunction with caudal anaesthesia, serve admirably for exposure and all the detailed steps in resections for tumor, diverticula, surgical diathermy, implantation of radium or plastic procedures anywhere about the bladder.

Surgical conditions of the perineum such as stricture, rupture of the urethra, fistula, periurethral suppurations, prostatic abscess, early extravasation of urine, carcinoma of the prostate, all are readily operable with caudal anaesthesia or transsacral block. The stricture case with a history of long retention and consequent renal impairment, is particularly adaptable to local (regional), while general anaesthesia

is often dangerous. For perineal prostatectomy, the simple caudal injection (at sacral hiatus), is usually sufficient; here again the rectal sphincteric relaxation is a distinct advantage.

For renal surgery, especially in bad surgical risks, such as tuberculosis, polycystic disease, traumatic rupture, bilateral calculus disease, regional anaesthesia is a valuable adjunct. We stated above the steps necessary to obtain the required re-

sult with spinal technic. Paravertebral injection of novocain at the appropriate points also proves satisfactory, particularly if combined with splanchnic injections, which while theoretically difficult, are practically simple, and failure to do this part for control of the kidney and its pedicle, may make the proposed operation impossible due to activity of the sympathetic nervous system. The question of the necessity for splanchnic injections has

Name	Diagnosis	Operation	Type of Anaesthesia	Amount Used	Time	Percentage of Success
A. G.	Hypertrophied Prostate	Cystoscopy	Sacral 2% Novocain	40 c.c.	3 min.	100
L. W.	Chronic Posterior Urethritis	Cystoscopy	2% Novocain	40 c.c.	5 min.	100
C. L.	Chronic Cystitis	Cystoscopy	2% Novocain	40 c.c.	3 min.	100
D. B.	Ruptured Urethra	Perineal Section	2% Novocain	40 c.c.	15 min.	100
H. B.	Renal Calculus	Cystoscopy	2% Novocain	40 c.c.	Failure due to faulty technic.
G. M.	Periurethral Abscess	Incision and Drainage	2% Novocain	40 c.c.	20 min.	75
D. Y.	Stricture of the Urethra	Urethroscopy	2% Novocain	40 c.c.	5 min.	100
T. C.	Hypertrophied Prostate	Cystoscopy	2% Novocain	40 c.c.	5 min.	100
T. O.	Stricture of the Urethra	Urethroscopy	2% Novocain	40 c.c.	5 min.	100
R. T.	Hypertrophied Prostate	Suprapubic Cystostomy	2% Novocain 1% Novocain Sacral and Block	40 c.c. ?	20 min.	75
C. P.	Stricture of the Urethra	Perineal Section	2% Novocain	40 c.c.	15 min.	100
E. M.	Hypertrophied Prostate	Suprapubic Cystostomy	2% Novocain 1% Novocain Sacral and Block	40 c.c. ?	25 min.	75
H. B.	Hypertrophied Prostate	Prostatectomy	2% Novocain 1% Novocain Sacral and Block	40 c.c. ?	20 min.	75
H. S.	Urethral Fistula (Anterior)	Suprapubic Cystostomy	2% Novocain 1% Novocain Sacral and Block	40 c.c. ?	20 min.	75
A. K.	Perineal Abscess	Incision and drainage	2% Novocain	40 c.c.	10 min.	100
J. W.	Hypertrophied Prostate Median bar	Caulk's Punch	2% Novocain	40 c.c.	15 min.	100
S. T.	Stricture of the Urethra	Suprapubic Cystostomy	2% Novocain 1% Novocain Sacral and Block	40 c.c. ?	10 min.	75
A. M.	Periurethral Abscess	Incision and drainage	2% Novocain	40 c.c.	10 min.	100
J. H.	Stricture of the Urethra	Suprapubic Cystostomy	2% Novocain 1% Novocain Sacral and Block	40 c.c. ?	30 min.	75
M. C.	Perinephritic Abscess (right)	Cystoscopy	2% Novocain	40 c.c.	5 min.	100
J. W.	Hydronephrosis	Cystoscopy	2% Novocain	40 c.c.	5 min.	100
J. B.	Stricture of the Urethra	External Urethrotomy	2% Novocain	40 c.c.	12 min.	100
W. S.	Stricture of the Urethra	External Urethrotomy	2% Novocain	40 c.c.	15 min.	100
W. S.	Perineal Abscess	Incision and drainage	2% Novocain	40 c.c.	20 min.	100
D. B.	Perineal Abscess	Incision and drainage	2% Novocain	40 c.c.	7½ min.	100

TABLE I.—COMPOSITE RECORD OF SELECTED CASES IN WHICH SACRAL AND TRANS-SACRAL ANAESTHESIA WAS ADMINISTERED

received a great deal of discussion; certainly its omission may account for failure of renal operative effort without recourse to gas or ether.

Some inconsistencies relative to scrotal surgery were mentioned above. For non-suppurative processes, ordinary infiltration suffices; for the suppurative condi-

No.	Diagnosis	Operation	Time for Anaesthesia	Reaction from Injection	Site of Injection	B.P. Before Injection	B.P. After Injection	Remarks
1.	Pyonephrosis (right)	Nephrectomy	7½ min.	none	10th to 11th dorsal	115 78	110 78	Anaesthesia from 12th rib downward. Duration 50 minutes.
2.	Extravasation of urine	Incision and drainage	5 min.	none	4th to 5th lumbar	100 60	90 50	Anaesthesia from crest of ilium. Duration 45 minutes.
3.	Perinephritic abscess	Incision and drainage	5 min.	none	10th to 11th dorsal	130 80	120 80	Anaesthesia from 12th rib. Duration 50 minutes.
4.	Urethral stricture. Acute retention of urine	Suprapubic Cystostomy	10 min.	none	11th to 12th dorsal	145 85	140 80	Anaesthesia from 12th rib. Duration 1 hour 5 minutes.
5.	Urinary extravasation. Multiple perineal fistulae	Suprapubic Cystostomy	5 min.	none	11th to 12th dorsal	140 80	140 80	Anaesthesia from 12th rib. Duration 55 minutes.
6.	Urinary extravasation. Vesical calculus. Lobar pneumonia	Suprapubic Cystostomy Removal of Calculus	5 min.	Pulse became very weak and thready, breathing became labored, slight feeling of nausea. 5 c.c. of adrenalin administered.	11th to 12th dorsal	104 64	90 50	Patient had a generalized anaesthesia, probably because of solution injected into the subdural plexus of veins.
7.	Hypertrophied Prostate	Prostatectomy (suprapubic)	4½ min.	none	12th dorsal— 1st lumbar	140 110	130 100	Anaesthesia from umbilicus. Duration 1 hour 5 minutes.
8.	Vesical calculus	none	15 min.	Patient developed an anxiety neurosis and refused to allow operation.	12th dorsal— to 1st lumbar	130 84	130 84	Anaesthesia from umbilicus. Patient described a choking sensation and fear of impending death. Temperature pulse and respiration was normal. No untoward results followed.
9.	Vesical calculus	Suprapubic Cystostomy for removal of calculus	10 min.	none	11th to 12th dorsal	145 90	140 80	Anaesthesia from umbilicus. Duration 50 minutes.
10.	Carcinoma of prostate	Suprapubic Cystostomy	5 min.	none	11th to 12th dorsal	160 84	148 84	Anaesthesia from umbilicus. Duration 55 minutes.
11.	Median bar formation	Colling's operation	5 min.	none	4th to 5th lumbar	140 80	140 80	Anaesthesia from crest of ilium. Duration 1 hour 5 minutes.
12.	Hydrocele (suppurative)	Excision of Hydrocele sac. Orchidectomy	5 min.	none	4th to 5th lumbar	115 60	104 50	Anaesthesia from crest of ilium. Duration 55 minutes.
13.	Impassable stricture of urethra	Suprapubic Cystostomy	5 min.	none	11th to 12th dorsal	140 86	130 80	Anaesthesia from 12th rib. Duration 50 minutes.
14.	Urinary extravasation	Suprapubic Incision and drainage	5 min.	none	11th to 12th dorsal	120 80	115 70	Anaesthesia from 12th rib. Duration 60 minutes.
15.	Urinary extravasation. Multiple perineal and scrotal fistulae	Suprapubic Cystostomy Incision and drainage	10 min.	none	11th to 12th dorsal	90 50	70 30	Anaesthesia was generalized. Because of low blood pressure following the injection 5 mms. of adrenalin was administered. Blood pressure then returned to 90/50. Duration of Anaesthesia—1 hour 5 minutes.

TABLE II.—COMPOSITE RECORD OF CASES IN WHICH SPINAL ANAESTHESIA WAS ADMINISTERED.

tion field block, which is easy as the parts are so readily accessible. For painful cystoscopy, consider the following:

1. Nervous patients.
2. Tuberculous bladder cases.
3. Operative procedures as for dilatation and examination of stricture cases.
4. Litholapaxy or other instrumental removal of calculi.

I. Fulguration.

6. For obtaining biopsy material. We have very happily used sacral anaesthesia for all six types of procedure, many times in our office, and nearly always with complete success. The advantage of this from an economic standpoint is evident.

AFTER-EFFECTS OF SACRAL AND PARAVERTEBRAL ANAESTHESIA

Nausea is rare, vomiting exceptional. Urological patients are able to take fluids at once, an invaluable asset. Usually food is acceptable the evening of the operative work. (These statements refer to cases having major surgical procedures such as bladder resection, prostatectomy, etc.).

Sloughing of tissue and abscesses at the site of injection occur rarely and are due to faulty technic. Immediately after the institution of anaesthesia, pallor and increased pulse rate are expected. We recorded our practice above relative to position and stimulation and are merely repeating the experiences of prior writers.

Our analysis of the first one hundred instances of regional anaesthesia in our service at Grace Hospital, will follow, our effort having been to carefully select cases for the methods described; we are omitting spinal anaesthesia from this particular survey, and also isolated instances of caudal, trans-sacral and paravertebral anaesthesia and a ten-year record of infiltration and field block work, preceding an arbitrary date, February 1, 1926.

ANALYSIS OF ANAESTHESIA RESULTS

Cystoscopy—including simple observation and ureteral manipulations—47.

Prostatectomy—28. Five one-stage operations.

For resection of urethra for stricture—6.

For dilatation of urethra for stricture—2.

For prostatic abscess—3.

For plastic operation on bladder—4.

For vesical and ureteral calculi—2.

For other procedures including drainage of perineal and periurethral abscesses—6. In many of these 6 cases operative work other than that for which the caudal (or

sacral) anaesthesia was given, was done, making classification difficult.

Kidney Surgery—1 nephrotomy and pyelotomy. 1 pyelotomy.

For the 47 cases with which the method of caudal anaesthesia was used for cystoscopy, in every instance it was successful, and in all except one, recorded 100 per cent. In most instances the examination would have been impossible without some anaesthetic other than that of questionable degree, obtained by urethral instillation. Quite naturally 47 instances in the total number of cystoscopies one performs in a period of nearly two years, is a small percentage, yet these represent cases of relatively great importance.

For the 28 cases of prostatectomy, the convalescent period was considerably shortened, in many instances the healing time markedly reduced. One unfortunate complication occurred, bringing about death due to the type of anaesthetic. In this case the wound healed on the eleventh day (the anaesthetic was one hundred per cent successful), and voiding occurred in fair amounts from the fifth day. Three days following operation (prostatectomy) a gangrenous area appeared over the sacrum at the site of novocain injection; a small slough formed but the local condition did not seem of great consequence. On the fifteenth day, a swelling developed in the right buttock which later formed a massive extension abscess apparently fatal. The gland proved to be carcinomatous.

In prostatic surgery with regional anaesthesia, an anaesthetic death is perhaps more readily ascertained; the important item in regard to this admittedly small series is that no operative mortality occurred, and a number of the cases were hopeless risks for general anaesthesia. We might cite cases with advanced aneurism, extreme myocarditis, asthmatics, etc., but wish to continue conservative, and always carefully consider other infirmities as well as waning renal activity.

Of the six cases operated upon with resection of the urethra for stricture, two were extremely poor risks, four had extensive scars from previous perineal operations, and one patient had recently had an almost fatal urinary extravasation. In one of the two kidney operations noted (paravertebral anaesthesia) the method was especially successful. The patient had had four previous cystostomies, for vesical calculi, diverticula, and persistent sinuses; also a right ureterotomy for stone and a right orchidectomy for a suppurative pro-

cess. He presented himself with multiple bilateral renal calculi and a left pyonephrosis.

SUMMARY AND CONCLUSIONS

1. Results in approximately 200 cases justify a further pursuance of the methods outlined.
2. In selected urological cases, regional anaesthesia proves an invaluable asset both as a factor for increased safety to the patient and in the rendering of the operative procedure more easily performed.
3. The method has proven of greatest value in prostatectomy and urethral resection.
4. The technic, while simple, requires practice and time for execution, and should best be delegated to professional anaesthetists.

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POST-OPERATIVE COMPLICATIONS*

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I was greatly pleased that your chairman allowed me to use as my title for this address Post-operative Complications. Such an occasion calls for a general appraisal of our progress in medicine rather than for any special statement of advances in a narrow field or a recital of newer technical methods. We have altogether too much specialization, and the example that we quite unintentionally set, by our enthusiasm to go forward in a special branch, exerts a bad influence on the medical student. He, emboldened by a praiseworthy spirit of emulation but long before he has had the opportunity to envisage the whole horizon of medicine, anxiously attempts to select his specialty. We are already in danger of losing from our ranks not only the general practitioner, that backbone of our profession, but also those individuals who though they may have later in life somewhat restricted the scope of their practice at least had the advantage of beginning with a large general experience in the field of medicine.

My topic allows me to discuss matters which should be of interest to every medical man, be he surgeon or physician, for it attempts to gather together in one lesson the experiences of people who may

have studied this matter from varied interests; some anatomical, some technical, some only with an interest in anaesthesia and others because of the pathology produced.

A broad survey of the whole field of post-operative complications reveals the fact that investigators have often sought for the explanation of these complications in unusual conditions of anatomy, physiology or environment. Our feeling, on the contrary, is, as you will see when we develop the thesis, that the only factor common to every surgical operation is the wound itself and we shall attempt to show that what takes place in this single common factor is responsible for the majority of all post-operative complications.

With the period that follows operative intervention begin the trials and tribulations of the surgeon. In its earlier days when surgery concerned itself only with emergency measures, the complications that ensued were belittled by the formidableness of the occasion and aroused but passing interest. Now, however, when so much of the surgeon's work is that of election and not necessity, it behooves him to consider in his appraisal of the risk to his patient not only the operation itself but also certain dangerous sequelae.

COMPLICATIONS GET SCANT ATTENTION

In the textbooks of surgery post-operative complications are dismissed with scant attention. Special difficulties dependent upon the local anatomical considerations, such as injury to the recurrent laryngeal nerve in thyroidectomy, are mentioned with the description of the operation, and a few paragraphs are devoted to pneumonia, embolism, etc., as isolated phenomena appearing during the period of convalescence. Even the great systems of surgery have failed to assemble in one group the post-operative complications. This dissociated manner of treatment hides their true relationship and thus fails to stimulate an interest in prophylaxis.

During the last twenty years there has arisen in the medical profession the very healthy tendency to study end-results, i. e., the final conditions of our patients following the use of various forms of therapy. In surgery this has meant the final result achieved by a special operation or procedure. It has served an admirable purpose in surgery and has emphasized what grave sequelae may follow even simple operations. The grouping of such sequelae has led to further experimental work in an attempt to define the cause for these com-

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plications. As a result, we now know a great deal concerning the etiology of post-operative complications, and the knowledge thus accumulated has in turn led to a constant and steady improvement in the choice and technic of surgical procedures.

PREPARATION OF SURGICAL PATIENT

In the first place, such a method of analysis pointed out gross errors in anaesthesia, asepsis, and hemostasis until difficulties attendant upon lapses in surgical technic have been minimized. Next, it was found that a proper preparation of the patient for the ordeal of the surgical intervention obviated some of the undesirable sequelae. This point cannot be too strongly emphasized, for it is certain that our earlier methods of preparation devitalized patients and rendered them more susceptible to certain distressing post-operative complications. The recent advances in our knowledge of the action of drugs used preliminary to operation and during operation, as well as the experimentally proven facts concerning acidosis and allied disturbances, demand a readjustment of our ideas of what is the best preparation of the patient for operation. Twenty years ago rather rigid starvation as well as the withholding of water accompanied by severe purgation was the accepted regimen. This was based on the assumption that post-operative vomiting and distention were less likely to occur with empty intestines. The dangers of dehydration, starvation, and the paralytic condition in the bowel following strong catharsis were little understood. It seems unnecessary to go into this in any detail here, since the matter is covered even in the modern textbooks of pharmacology and physiology. It is now generally appreciated that starvation and dehydration lead to acidosis, and acidosis in turn to serious general circulatory embarrassment. It is, moreover, the common clinical experience of all surgeons that a high fluid intake is a procedure of paramount importance in post-operative therapy. It has been further claimed that not only should water be allowed in abundance up to three hours before operation, but that in order to assist the liver, which is susceptible to damage by most inhalation anaesthetics, sugar should be given in large quantities the evening preceding operation for its protective action. Both experimental investigations and clinical experience emphasize the fact that in the pre-operative preparation the patient should be disturbed as little as possible from his normal daily routine.

WHY EMERGENCY CASES DO WELL

That such a course is advantageous has been abundantly proven by the excellent post-operative course of patients submitted to emergency operations where there is not time for any special preparation. Thus, cases with sudden intra-abdominal inflammatory disease, such as occurs when a viscus ruptures, or cases of severe trauma which are operated upon shortly after recognition usually run a smooth post-operative course. Also there has developed in the past ten years a feeling that special cases, such as those with exophthalmic goitre, are better cared for if the operative ordeal is masked to the last moment. These cases, therefore, are given no preparation and seem to do well. It is a good example of surgical conservatism that, though cases which are frequently a source of worry to surgeons are given no preparation because it seems to be of benefit, other cases which are less formidable and, therefore, will stand special preparation should still be submitted to a routine that is nothing more than an obsolete heritage from a former period of surgery.

IMPORTANCE OF MENTAL ATTITUDE

These matters of the preparation of the patient for operation often play a dominant role in the complications which ensue. Of equal importance with matters of physical preparation is the problem of a correct appraisal and handling of the mental attitude and reactions of the general nervous system of each case. Volkmann, in the 1927 meeting of the Deutsche Gesellschaft für Chirurgie, discusses this aspect of our surgical patients. He states that about 0.2 per cent of all cases develop some form of psychosis, males predominating, and he intimates that a more careful pre-operative study of the nervous system with the institution of proper environmental conditions might have lessened the incidence of such sequelae. At any rate, such a study emphasizes the fact that environmental adaptations in individual cases are important and that in treating the body no physician or surgeon can afford to neglect the mind.

In addition to prophylactic measures we must not neglect matters of diet. Both pre-operative and post-operative prophylaxis in this matter may set aside many troubles. Its value is so obvious in cases with disturbed metabolism (acidosis, protein retention, diabetes, etc.) or local disease (peptic ulcer) that it seems unnecessary to elaborate the details of dietary

therapy here. This, however, is an excellent opportunity to emphasize the importance in all hospitals of a competent dietary department.

CLASSIFICATION

It seemed impossible for us to discuss constructively the multitude of post-operative complications without some form of general classification. An etiological basis seemed advisable, since it would not only clarify the diagnosis but would suggest therapy by explaining the mechanism for the occurrence of the conditions. This method, moreover, would emphasize the means of preventing these sequelae. In attempting to simplify the classification on such a basis it was obvious that nearly all post-operative complications were caused by one factor, viz., trauma. This is the single factor common to all surgical operations. Inhalation anaesthesia is not common to all procedures, and it is well known that all forms of post-operative complications may follow not only operations under local anaesthesia but even manipulative procedures when no anaesthetic is used. Such trauma may be divided into four types: (1) mechanical, (2) infectious, (3) chemical, and (4) psychic.

Under mechanical trauma would fall the larger share of complications. The more obvious major complications due to such trauma are hemorrhage and the type of shock it produces, embolism, infarction, and indurated wounds (due to the reaction about devitalized tissue). A second group includes all those complications due to injury of the nervous system, such as that form of shock supposedly due to stimulation of a nerve, the various forms of dilatation of hollow viscera (stomach, intestine, bladder) with transient paresis, and the late nervous sequelae due to pressure by scar as found in the group of causalgias and "tardy" paralyses.

Under infectious trauma would fall two major groups: (a) those complications attendant upon a local infection at the site of operation (wound infection), whether the organisms were introduced at operation or merely disseminated in the wound from an already existent focus; and (b) those complications due either to the distant dissemination from the wound (pyemia, abscess of the lung, septicemia), or to the flare up of distant infection which had been present but inactive until the operation reduced the existing local or general immunity and allowed such infection to progress. In the latter group might logi-

cally fall the flare up of old tuberculous lesions, the lighting up of a dormant but chronic pyelitis, or arthritis.

Under chemical trauma would be listed those disturbances of metabolism, such as acidosis, hyperglycemia, uremia, etc., which are usually of lesser significance in the normal patient, but which assume great importance in a patient who is a "poor risk." The seriousness of the conditions in this group is greatly augmented by concomitant infectious or mechanical traumata.

Under psychic trauma would fall those cases which manifest mental changes following operation. The types of mental disorders seen after operation vary from simple depression to active suicidal mania. It is true that serious forms of psychical disturbance almost always occur in patients in whom there is already evidence of mental deterioration. The lesson here emphasizes that most important axiom of medical practice that one cannot treat the body well unless one also treats the mind. Serious post-operative mental sequelae may be obviated by a proper appreciation of the mental condition before operation and the institution of proper suggestive, environmental, and therapeutic steps.

A TEACHING CLASSIFICATION

We feel that all complications probably fall under one or more of these simple groups. Repeated studies in isolated groups of special complications have greatly impressed us with the lesson in surgical technic emphasized by the etiological significance of trauma and have convinced us that various external matters, such as the kind of anaesthesia, the position of the patient and the pre-operative and post-operative care, usually play but minor parts in the incidence of these unfortunate sequelae. Since this is not the common method of classification, however, we have been accustomed to use for teaching purposes the following grouping:

1. Complications involving the circulatory system.
2. Complications involving the nervous system.
3. Complications due to infection.
4. Pulmonary complications.
5. Complications following operations upon "poor risk" subjects.
6. Complications dependent upon local conditions in special fields.

These very general headings permit us to emphasize etiology and thus stimulate

therapy and prophylaxis by reducing to simple terms the conditions at operation that result in subsequent disease. The utilization of so many divisions will, of course, necessitate some repetition; for example, thrombosis which is obviously a disease of the circulatory apparatus (Group 1) must also be mentioned under complications due to infection (Group 3), under pulmonary complications (Group 4), and perhaps again under complications following operations upon "poor risk" subjects (Group 5), and under complications dependent upon local conditions in special fields (Group 6).

Groups 1, 2 and 3 cover the more common complications and in our discussions we can touch only upon these main divisions. Thus, under Group 1, complications involving the circulatory system, we include hemorrhage (shock), thrombosis, embolism and infarction, and as subheadings thrombophlebitis, mesenteric thrombosis, and fat embolism. Under Group 2, complications involving the nervous system, will fall the psychoses, the acute dilatation of hollow viscera with distention, gas pains, urinary retention, etc. Under Group 3, complications due to infection, will come infections of all kinds, whether the extension of an infection already present, the occurrence of new infection at operation, or the occurrence of specific infections with the gas bacillus, the tetanus bacillus, etc.

Group 4, pulmonary complications, has been so frequently studied as an entity and is of such importance that it deserves separate discussion, although in our opinion its etiology would usually place it in Group 1, 2, or 3, or in a combination of them. Group 5, complications following operations upon "poor risk" subjects, deserves special comment, since the unfortunate sequela to an operation may in certain cases depend solely upon the general condition of the patient before operation. Thus, cases of thyroid disease, acute nephritis, diabetes, long standing jaundice, emaciation, dehydration, etc., involve certain risks that, if not appreciated and corrected before operation, entail grave sequelae. The treatment of such "poor risks" as a group permits great emphasis to be placed on the proper selection of cases and the proper preparation for the ordeal of operation in all cases. In Group 6, complications dependent upon local conditions in special fields, attention should be drawn to some of the more important complications dependent upon the local anatomy. Thus, in

thyroidectomy the recurrent laryngeal nerve is easily injured, in left nephrectomy the pleural space may be opened, and in cholecystectomy a segment may be removed from the common duct.

It is certainly the more common practice to group the complications anatomically and thus consider abdominal, genito-urinary, pulmonary and other sequelae as regional diseases, but such a method fails to emphasize the real lesson of the mechanism of origin of these unfortunate conditions which must be appreciated if we are to benefit permanently from any such study. The majority of complications are due to some form of injury common to all operations and are not dependent for their origin upon special anatomical features of the particular field of operation.

OPERATION PER SE RESPONSIBLE

Thus, a mere recital of the complications brings out clearly the fact that the operation per se is responsible for the ensuing condition. This is obviously the lesson of this discussion, and the importance of careful studies of each complication in the improvement of the surgical art cannot be over-emphasized. The result of such studies has been a continuous improvement in surgical technic and a tendency to standardize operations as evidenced by the many treatises on regional surgery. Unfortunately, the lessons learned by a few are not yet widely understood. It is obvious that more accurate hemostasis and a better control of infection will to a great degree lessen the dangers both of subsequent sepsis and of the complications associated with the circulatory apparatus, such as hemorrhage, thrombosis, phlebitis and embolism. Gentleness in the handling of tissues will mitigate to a great extent those complications dependent on an interruption of the normal nervous mechanism. It is unfortunate that surgeons cannot be taught histology from living material, and not from dead, paraffinized sections, for, if they as students handled living cells for microscopic study, what a convincing lesson they would acquire for their future handling of living tissues in the operating room!

This emphasizes technic to a high degree. One should, however, distinguish such technic from pure manual dexterity. Moreover, this should demonstrate the danger of speed, for one cannot assiduously control all bleeding, be exquisitely gentle, and yet operate in a scant fifteen to thirty minutes. It rarely happens today in surgery that speed is necessary or

desirable at the expense of accurate and delicate handling of tissues.

COMPLICATIONS INVOLVING THE CIRCULATORY SYSTEM

The discussions that come under this heading emphasize to the highest degree the importance of an etiological basis for arriving at a satisfactory explanation in this field of study. It is our belief that more than 50 per cent of all complications find their origin in vascular damage. Injury to blood vessels occurs in every operation; therefore, the ensuing discussion is applicable to every operative procedure. The methods by which we institute hemostasis and asepsis are the principles of surgery. The principle of hemostasis is now enlarged to include the gentle handling of blood vessels, as well as the actual arrest of bleeding so that thrombosis and subsequent embolism shall be minimized. It was an appreciation of these simple lessons which made William Stewart Halsted the greatest surgeon of his day and which has elevated modern American surgery through the influence of his teaching and that of his pupils to the high position it now holds.

The complications which follow injury to the circulatory system may be grouped as (A) general, (B) local, and (C) disseminated. Under Group A, complications with general effect, we include those clinical conditions (hemorrhage and shock) which result from a reduction of the blood volume; under Group B, complications with local effect, we include local wound conditions (hematoma, induration, "wound fever," etc.), and lesions in the area supplied by blood vessels distal to the wound (ischemia, gangrene, thrombosis, cyanosis, causalgia, etc.). Under Group C, complications with disseminated effects, we include the conditions dependent upon the transmission from the field of operation of thrombi formed in the wound. The latter may be carried to an artery under which condition a wide variety of clinical syndromes, from gangrene of an extremity to softening of the brain, may be produced, depending upon which vessel has been injured and where the embolus lodges; or the embolus may be, and more commonly is, transported by the systemic veins to the lung where again a different clinical disorder may be produced — post-operative "pneumonia", abscess of the lung, pleurisy, etc., depending upon the size and infectivity of the clot and the resistance of the patient.

The variety of clinical conditions enumerated above may elicit surprise upon the part of surgeons whose minds have been devoted more to methods of exposure and the conditions for which operations should be performed than to the technical performance of the task. Such minute details as clamping vessels before dividing them and then ligating the central end proximal to that portion crushed by the clamp are seen to assume a role of importance. Moreover, it is obviously wise to ligate venous channels as close as possible to the next channel with which they connect so as to do away with a vascular segment in which there is stasis, for stasis plays a role in thrombosis. Such technical details cannot be over-emphasized. A vein, if opened and injured before being clamped or, still worse, if kept from bleeding merely by the application of a piece of dry gauze, permits the union of all the more important factors necessary for thrombosis, viz., stasis, injured endothelium and tissue juices.

GREAT SPEED DANGEROUS

These facts should convince every surgeon that great speed in operating is a dangerous element, and those who pride themselves on their facility may well hesitate. It is impossible to fulfill the imperative demands of careful surgical technic and finish any procedure in a scant fifteen minutes. Fortunately for our patients, American surgery is tending away from the rapid, spectacular form of procedure which is simply an inheritance from the days when anaesthesia did not exist and when rapidity of performance lessened the terrible pain of the ordeal. Now we have the great blessing of anaesthesia, and the demand for speed has passed. Moreover, the rapid operator is sure to lose more blood than his more meticulous, technical colleague and thus not only will subject his patient to the dangers of local wound injury and disseminated vascular disease, but also will be confronted with the perils which attend a diminished blood volume. This is readily seen in the tendency of such operators to make a generous use of the transfusion of blood even in simple cases. Indeed the popularization of this latter procedure, a procedure which produces a profound psychological effect on the laity, as well as on the profession, has done much harm. It would seem wise for the men in responsible positions at the heads of clinics to demand of their associates a reason for each transfusion. If it is merely to bolster

up a patient after an operation, the transfusion may really constitute a criticism of the particular surgeon's method of operating, and it would be well to warn this individual that unless he can learn to operate without the aid of transfusion he should perhaps search elsewhere for his life's work. Thus the number of transfusions in any given clinic represents to a certain extent the type of technical surgery it practices.

It is not our purpose here to discuss in detail the clinical syndrome or the therapy of these complications. We are simply interested in focusing attention upon etiological factors. Thus in this first group of complications we are only anxious to bring forward the seriousness of injury to the circulatory system. The therapy of post-operative hemorrhage and shock should never be of the same interest to us as the prophylaxis of these serious sequelae. The frequency of thrombosis and embolism is not a matter of figures. We all can recognize massive embolism whether pulmonary or in large arterial trunks; what is far more important is that all surgeons should recognize that in every surgical procedure their patients are confronted with these dangers, and that when they do occur it is unnecessary to search beyond the wound for the etiological factors. The cause for many of the abrupt post-operative pulmonary disabilities, as well as the obvious extension of infection causing pyelophlebitis and mesenteric thrombosis lies in the wounds of our patients and not in any mysterious and indirect explanation.

COMPLICATIONS INVOLVING THE NERVOUS SYSTEM

Serious complications dependent upon injury to the nervous system are rare. In a vast number of complications, however, minor interference with the normal nervous mechanism probably plays a certain role, although the exact mechanism by which such conditions arise is still unknown. With increasingly more accurate information one has the impression that, except for the immense possibilities dependent upon psychic injury, operations themselves do not exert such a deleterious effect upon the nervous system as heretofore considered. Confirmation of this impression is derived from a study of the effect of protracted serious intracranial procedures, such as the extirpation of a brain tumor, where the patients make unusually uncomplicated recoveries. This is true unless there is great loss of

blood. The same observations hold true in relation to procedures upon the spinal cord and the other large nerve trunks. We have removed a tumor as large as two goose eggs from the mid-portion of the sciatic nerve where it lay as a small part of the generalized neurofibromatosis seen in von Recklinghausen's disease without being able to detect, either at the time of removal or later, the slightest effect upon the nervous system. It may well be that when one deals with large gangliated areas of the sympathetic nervous apparatus, such as occurs in abdominal procedures and particularly when the procedure involves the posterior peritoneal region, a different effect is produced as regards the nervous system from that produced when the major central and peripheral nervous systems are involved. However, the recent observations of Cannon and his colleagues that cats totally deprived of their autonomic nervous system live and act much as intact animals may indicate that we have unduly emphasized the importance of this part of the nervous system. The fact that the sympathetic nervous system is perhaps more resistant to anoxemia and trauma than other nervous elements would lead us to expect that the case is probably no different in this instance than when dealing with the central nervous system. However, disturbances of smooth muscle probably are produced reflexly from the site of the operation through the sympathetic system, as well as by direct injury to the local intrinsic nervous apparatus.

MAJOR EFFECTS ON MENTALITY

The experimental researches of Crile regarding the appearance of morbid changes in the cells of the central nervous system due to exhaustion following shock or hemorrhagic injury has not been corroborated. Experience, therefore, would seem to indicate that the major effects upon the nervous system following operation are produced upon the mentality and psyche of the patient and by reflex sympathetic action. We are, therefore, perhaps justified in grouping under the heading of this section chiefly the sequelae to fright and fear psychoses, and the depression caused by mental anxiety in patients with a nervous system which is not well balanced and in which the threshold for external stimuli is congenitally lowered. The fact, however, that patients with such a nervous system do come to surgeons does not in any way diminish the responsibility of the surgeon

to recognize this type and to use proper prophylactic measures.

It would seem, moreover, as if some of the simpler complications which follow slight operations under local anaesthesia may conceivably be due to slight injury to the neuro-muscular mechanism, and it is certainly possible that dilatation of the bladder and bowel may follow an operative procedure as the direct result of paralysis of the normal neuro-muscular mechanism. A similar change in the neuro-muscular mechanism of the lung may even play a part in certain post-operative pulmonary complications.

COMPLICATIONS OF GENERAL NATURE

Under this caption should be included the great group of post-operative psychoses in which the conditions in any given patient may vary from a simple hypersensitivity and frightened condition to a wild delirium which may bear analogy with the post-delivery psychoses of child birth, or with the confused mental and psychical picture present after operation in certain patients suffering with Graves' disease. One sees not infrequently, both before and after operation, patients whose condition is somewhat similar to the early stages of shock with a lowered blood pressure, capillary stagnation, and cyanosis, all of which are dependent upon the mental reaction of the patients, although the differential diagnosis between this condition and fat embolism is at times extremely difficult. It is, we think, quite safe to state that these fear psychoses and their sequelae do not occur in individuals with a normal nervous mechanism. The importance of recognizing the condition before operation, however, is well known to experienced operators, some of whom have even gone so far as to suggest that a patient who does not think he is going to get well is not a fit subject for surgery. This perhaps should not be translated too literally, but if the surgeon cannot give his patient the necessary courage and hopeful attitude to make him desire an operative ordeal, he would do well to worry about the post-operative complications of that particular patient. For the last fifty years there has been a great deal of investigation into the influence of mind over matter, a study which has found its greatest expression in the cult known as Christian Science. It is now time that the medical profession, whose skepticism and carelessness in this matter are partly responsible for the flourishing growth of this sect, should recognize the

underlying and important principle regarding the influence of mental states upon the general physical well-being of the individual.

LOCAL COMPLICATIONS

Post-operative intestinal distention (gas pains, paralytic ileus). This complication always entails discomfort to the patient, often is a source of protracted worry to both the patients and their family, and may become a matter of grave danger to the patient. As a result, a great amount of thought has been devoted to this topic and physiologists have repeatedly attempted to explain the mechanism by which this post-operative complication occurs. It has been shown that intestinal motility may be retarded by various simple forms of local injury which affect the neuro-muscular mechanism in the wall of the bowel, or there may be produced a reflex disturbance in the control of the movements in the intestine through injury elsewhere in the body. In spite of the many explanations, both by clinicians and physiologists, no satisfactory and complete understanding has been available. The previous discussions of this serious complication have failed to explain the simpler forms of ileus which accompany procedures upon the periphery of the body under either general or local anaesthesia. Previous explanations have also failed to show why, when one produces experimental motor paralysis of the intestine, acute dilatation does not follow almost immediately.

Recent investigations of this matter have brought forward divergent explanations. Markowitz and Campbell of Toronto have shown that spinal anaesthesia will restore normal bowel movements in cases of paralytic ileus. They interpret the resultant improvement as due to paralysis of the reflex arc through which inhibitory stimuli might pass. This experimental work seems to corroborate the earlier observations and general feeling that paralytic ileus is in the nature of a reflex inhibition due to injury to a nerve.

The most recent studies by McIver, Benedict and Cline indicate the possibility that post-operative distention in some cases may be largely due to air swallowed during and after the operation. These investigators have analyzed the gases which appear in the rectum and have showed that the nitrogen content is usually higher than in atmospheric air. During these investigations these observers studied the effect of stimulation and division of the extrinsic nerves (vagus and splanchnic). Sections of

these nerves invariably resulted in increased activity and the passage of air downward. It would seem possible to harmonize these latter investigations with our previous idea that post-operative distention is of neurogenic origin by accepting the fact that post-operative distention of the intestine may be due to swallowed air, but bearing in mind that the important point in the development of gas pains or ileus is a disturbance of the neuro-motor mechanism. "Cribbers" who swallow enormous quantities of air may become distended but do not develop gas pains or ileus.

After laparotomy there is usually a depression of peristalsis for about 24 hours. In ileus this period is prolonged and probably the degree of distention in this condition depends largely upon the state of the neuro-motor mechanism of the intestine.

POST-OPERATIVE ACUTE DILATATION OF THE STOMACH

Acute dilatation of the stomach is a striking clinical entity long recognized by clinicians. The mechanism by which this disorder is produced has been a subject of great controversy. Until recently it was supposed that the dilatation followed either duodenal occlusion from pressure of the mesentery of the small intestine or from paralysis of the muscle in the gastric wall. It would seem that occlusion of the duodenum could not alone account for the condition, since in experimental animals when unanaesthetized the forcing of air from a gastrectomy wound into the stomach does not cause great dilatation, since the air readily escapes via the esophagus; when the animals are anaesthetized, dilatation occurs. Such experiments, however, do not explain where the gas comes from which distends the stomach. Apparently the gas is primary to the fluid content, for we know from physiological experiments that distention of the stomach increases its secretion. The source of the air has been investigated recently by McIver who has shown by ingenuous experiments that fermentation and secretion cannot account for the amount of gas present. This leaves atmospheric air as the only source of the gases which cause the distention. It was determined that during anaesthesia there is an uninterrupted flow of air into and out of the esophagus. Air is apparently passed downwards in the esophagus by its peristaltic motions, since these motions are not abolished by anaesthesia. The carrying

downwards of a small amount of air is of no serious consequence, but as air becomes trapped in the stomach, perhaps by nervous influence upon the cardiac orifice, and excess secretion occurs subsequent to the dilatation, then a vicious circle sets in, vomiting ensues, there is a loss of not only water but also chlorides, and we find our patient in the same dangerous condition that occurs with all cases of high intestinal obstruction.

It is probable that the above mechanism occurs in all cases. Moderate damage to the splanchnic or vagus innervation either directly or through reflex stimulation may play an additional role in the complete picture. When the action of the vagus is suspended, dilatation of the stomach occurs from paresis of the gastric musculature. The reflex disturbance is complicated and more or less made a matter of speculation because of the known independent power of function of the plexuses of Meissner and Auerbach.

RETENTION OF URINE

This is one of the most frequent complications of surgical procedures and is always a source of distress and worry to patients. Its importance in the minds of clinical surgeons is indicated by the great number of papers which appear suggesting methods of combatting the disorder. An analysis of the whole field of surgery reveals very interesting data regarding the incidence of this disorder. One is impressed that it is infrequent in children; that it is very frequent in operations in the vicinity of the bladder and perineum, the latter resulting in a large number of treatises upon this matter by gynecologists. Finally, clinical experience reveals the important role played by psychogenic reflexes. We know that if before operation patients are taught how to pass urine on a bed pan or into a bottle in bed that the practice thus achieved stands them in good stead later; and we also know that if patients are carefully screened or kept in rooms by themselves, and particularly when the nurse is sensible enough to leave the room so that the patients are alone, they find far less difficulty in this simple physical phenomenon. It is also common knowledge that the more unstable the nervous mechanism of the patient the greater the liability to retention of urine. Such a broad vision of the whole field of surgery leaves the definite impression that, except where local painful reflexes interfere, the matter of retention of urine is chiefly psychological unless there be actual damage to the nervous system.

It is known that the reflex control of the bladder resides in the spinal column at the lumbar enlargement but that there is also a central control in the region of the basilar nuclei. The information regarding these centers is both experimental and clinical. The latter is chiefly from our experience with spinal cord tumors and tumors in the mid and hind brain. The early difficulties in urination, particularly in children suffering from cerebellar tumors, is one of the best indications of a central urinary control. It is probable that in local operations about the pelvis the reflex arc for control of the bladder is interrupted. In operations distant from the bladder stimulation carried by the splanchnic and vagus nerves may interrupt the normal mechanism after the same fashion that normal interruption occurs in the conditions of paralytic ileus and acute distention of the stomach referred to above.

POST-OPERATIVE NERVE PARALYSIS

Under complications involving the nervous apparatus it seems wise to include the rare cases of post-operative paralysis. It is unnecessary to discuss paralysis resulting from gross nerve damage or to discuss separately here the hysterical forms which occur in patients with an unbalanced nervous system. There unfortunately occurs, however, on rare occasions paralysis of the extremities due to the mishandling of patients on the operating table. These paralyzes do not follow operations under local anaesthesia. They are the result of placing anaesthetized unconscious patients in positions in which nerve trunks are stretched beyond their physiological limits or pressed upon by apparatus or other impedimenta of the operating room. The commonest form is perhaps the one which involves the arm and is due to allowing the extremity to hang over the edge of the operating table unnoticed throughout a long operation. These cases are simply the result of carelessness, but they do occur and are included here merely as another warning to surgeons of the dangers of the art they practice.

It may perhaps be wise to include here also the paralysis which follows the inclusion of extremities in plaster casts for long periods of time. Under such circumstances, unless there is pressure upon the nerve from some part of the apparatus or a fragment of broken bone, the paralysis probably antedated the inclusion of the limb in the plaster cast. It may seem unnecessary to some to bring up this matter, but in the

treatment of fractures it is quite certain that many surgeons have not yet learned that examination of the blood vessels and the nerve is infinitely more important to the patient than damage to the bony parts.

COMPLICATIONS DUE TO INFECTION

Infection remains the greatest danger to surgery. The events which must precede every surgical ordeal are so numerous that it is difficult for all the details upon which asepsis depends to be carried out completely. No matter how efficient our sterilizers, it is almost impossible to kill certain organisms in spore form. There is also the immediate difficulty of the operation itself; it is impossible to sterilize the skin, and even when all precautions are utilized and every rubber glove has been proven intact it is difficult to have four or five pairs of hands sterile. Surgeons know that some bacteria enter every wound. The fact that wounds will heal under these circumstances has perhaps often led to carelessness.

Arthur Tracy Cabot wrote that "every operation is an experiment in bacteriology" and William Stewart Halsted said "the operating room is a laboratory for the surgeon." If we could only instill the attitude of such surgeons toward their work into all those who practice surgery it might be unnecessary to read this particular section, for then we should have developed what James Mumford called the "aseptic conscience" to its fullest extent. We at the present are able to penetrate all portions of the body, and it has become so simple to do this that the technical performance of the task has far out-run the mental and spiritual development of those who practice surgery. Freedom from infection in 90 per cent of surgical procedures has led surgeons away from an interest in this matter, and the fine details are lost sight of.

It seems necessary from the point of view of understanding the etiology of post-operative infection to group these infections into two great sections (1) new infection and (2) the spread of infection present before operation.

NEW INFECTION

By new infection we mean the occurrence of infection in a wound after operation, due to the placement of bacteria in the wound during the operative procedure or immediately afterward through contamination from adjacent parts before or at the time of the first dressing. The occur-

rence of infection in a wound after operation depends either upon the placement in the wound of sufficiently numerous or virulent bacteria to gain a foothold, or upon the lack of normal defense mechanism which permits the avirulent and ever present bacteria of the skin and air to make a headway and give evidence of their presence by subsequent suppuration. This type of post-operative infection is entirely a question of asepsis and immunity. Local trauma may often play a dominant role. Thus, if the surgery performed is of a rough type, if large groups of cells are tied off in ligating blood vessels instead of just the vessel itself, if there is much rough handling of tissues and wiping with dry gauze, if strong antiseptics are dumped into wounds, thereby killing a large number of cells, we shall have placed in such a wound a great mass of devitalized, dead and dying tissues which will call forth a large inflammatory reaction. There will occur in such a wound dead spaces in which the tissue is not approximated and where collections of serum and blood clot will appear. In these little lakes of serum filled with necrotic cells, bacteria will easily gain a foothold, for the leukocytes which will remain fresh and vigorous when in contact with tissues when freed in such a lake of serum eventually die and are ineffective in engulfing and killing bacteria. Moreover, when leukocytes die they set free a tryptic fermentation which acts as a solvent upon other devitalized tissues which may be present. The admirable study by Sir Almer Wright of what goes on in open and closed wounds should be read by every surgeon. He will then appreciate the great battle for supremacy which takes place in even the simple wounds between the body defense and bacteria. A good surgeon must be a competent bacteriologist at least in the sense that he understands fully the general principles of immunity. The arguments put forth above apply not only to simple wound infection but in the broadest possible fashion to any type of post-operative infection, even to general peritonitis. Ordinary simple wound infection caused by skin bacteria, such as staphylococcus albus, is not severe and may result in a simple stitch abscess, but it should be an indication to every surgeon that this technic is faulty and needs improvement. If virulent bacteria, such as streptococci, reach the wound, the resultant lesion may be of serious import.

Our purpose in introducing this section is again to emphasize the great importance

of principles. The occurrence of post-operative peritonitis, parotitis, specific infection with the gas bacillus and the tetanus bacillus are matters of more detailed study. We are concerned here only with inculcating a viewpoint toward surgery without which progress cannot continue.

SPREAD OF INFECTION PRESENT BEFORE OPERATION

A large portion of surgery is dictated by the imperative demands of infection. In addition to the primary technical considerations of good surgery the presence of infection brings forth certain accessory requirements. In considering the spread of infection after operation there arises the important matter of drainage and the care of suppurating wounds. The grave danger of spreading sepsis in the surgery of a past generation has unfortunately resulted in an undesirable heritage among the present generation. In the era which preceded the knowledge of bacteriology and asepsis little was done for infectious lesions except to drain them. Thus it became customary to think that surgical performances in septic fields might be less delicate and require less perfect surgery than surgery in a clean field. As a result the surgery of sepsis is often left to junior colleagues in our large hospitals and to men whose judgment is not so mature. This is a most unfortunate attitude, for not only is it necessary to utilize all of the principles of surgery in treating septic wounds, but one must have a very thorough knowledge of bacteriology and immunity if one is to care competently for patients with infection. One sees this attitude of mind displayed in major clinics where such important matters as the surgery of a septic hand is left to junior assistants, whereas there can be no more difficult matter and certainly no more important matter than the adequate care and treatment of an infected hand. Every operation which penetrates a septic field, from the lancing of a boil to the removal of a gangrenous appendix with widely disseminated peritonitis, always involves the risk to the patient that the infection, though relieved locally, may extend by contiguity or by metastasis and become a source of mortal danger to the patient.

Dissemination of infection from a wound may occur by simple local extension or extension via the lymphatic or vascular channels. Local extension is usually due to a lowered resistance on the part of the host, but the surgeon may unwittingly spread infection himself by the nature and

position of the incision. Thus the process may be adequately studied in the simplest procedures. Nature, once bacteria get a foothold within the body, tends to wall off this lesion; it sends scavengers in the form of leukocytes into the field of battle and it concentrates about the offending organisms an increased blood supply with all the immune substances which are contained in blood serum. The increased pressure, the tryptic action of dying cells and the toxin of the bacteria create a spreading area of necrosis beyond which lies the walling off zone of the body reactions. In such a simple lesion the scales may be tipped in favor of the body by the simple addition of heat which, by increasing the number and mass of the immune materials, kills off the major number of the organisms and allows the remainder to be extruded as the covering of the body overlying the abscess breaks down. If now the surgeon approaches such a field and sweeps his knife widely from normal areas across the zone of walling-off through the central necrotic portion and out again into normal tissue, although he possibly assists the body by allowing some of the bacteria to be extruded, he also spreads the infection into areas which are not walled off. Because in simple cases the wound happens to be open the surgeon usually does not greatly jeopardize his patient, but that particular wound might have healed more quickly had the surgeon kept his knife within the limits of the areas walled off by nature. In streptococcus cellulitis this danger of early incision and of incision through uninvolved tissue before the defensive barriers have been erected is particularly dangerous. An appreciation of this simple phenomenon of inflammation and infection pertains to the treatment of major infectious lesions. One's judgment in the care of enormous carbuncles such as occur in the neck is dictated by the same simple considerations.

Extension of local infection via either the lymphatic or the circulatory systems may give rise to the most serious post-operative sequelae. Those of you who have been unfortunate enough to see a case of simple appendicitis succumb to pyelphlebitis and abscess of the liver will need no further lesson. That such extensions can and do occur is our reason for this particular discussion. The presence of infection only adds to the liability for thrombosis and its resultant embolism. Thus the dangers of infection are perhaps

chiefly wrapped up in its relation to trauma to the circulatory system.

CLOSING REMARKS

The foregoing discussions which concern chiefly trauma and infection cover the more important principles that are involved in post-operative complications, no matter what the locality. There is no time here to discuss special fields for complications, such as the lung, the important group of poor risk patients and the complications dependent upon local conditions. Indeed, much of such a discussion would be so special and technical as to confuse and therefore detract from the value of the general presentation. It is our hope, however, that even in such a brief survey, we have been able to emphasize what goes on in a surgical wound and how the developments there may play a role in any special locality. It is a curious reflection on human nature that in the special field of pulmonary complications when certain surgeons proposed embolism as a possible cause of some of the special forms of complications it was the anaesthetists themselves who continued to insist that inhalation, aspiration and irritation were the chief causes, thus continuing to incriminate their own art—this in spite of the fact that increasing perfection in administering inhalation anaesthetics has but little affected the incidence of post-operative complications, and with the published findings of others that exactly the same complications in much the same percentage occurred when local anaesthesia was used.

For the opportunity to present this matter, I am very grateful and I hope you will all be able to agree in certain of the principles involved. The opportunity to unravel many of the mysteries that surround this important field of medicine is available to all of us. Indeed, many of these problems can only be studied at the bedside and their solution waits on that most difficult form of scientific medicine, accurate bedside observation.

ACUTE INVERSION OF THE UTERUS*

MAX BURNELL, M. D., F. A. C. S.

FLINT, MICHIGAN

Acute inversion of the uterus is one of the rare complications of obstetrics. The

* This and the three following papers constitute the program of a regular staff meeting of the Hurley Hospital of Flint, Mich. It is the purpose of this Journal to furnish the readers with papers and case reports of other Hospitals throughout the state from time to time.—Editor.

case which is to be reported is of great interest for this patient has had four inversions in seven years. The many phases of acute inversion, such as causation, duration before correction, methods of treatment, morbidity, subsequent pregnancies, etc., are very interestingly brought out in the study of this case.

In October of 1921, Mrs. R. B., aged 23, was delivered at home of a full term living child. The patient, a primipara, was first seen by the attending physician as the fetal head was crowning. Spontaneous delivery followed before any attempt at asepsis was possible. The uterus inverted almost immediately. No attempt had been made to expel the placenta either by pressure from above or traction on the cord from below. The placenta was attached to the inverted fundal wall. After quickly separating it, pressure at the most dependent portion easily corrected the inversion. There was but moderate hemorrhage and the temperature was never higher than 100. The patient was up about the house in two weeks.

Within three months, Mrs. R. B. was again pregnant. The pre-natal period was apparently uncomplicated for she sought no medical attention. Upon going into labor, another physician was called to the house and the same performance was repeated. No attempt at asepsis was possible before a spontaneous delivery had resulted. The uterus again inverted and the placenta had to be separated from the fundal wall and quickly replaced. In this instance, also, there was no history of forceful Crede nor traction upon the cord. There was no fever during the puerperium. The lochia was not excessive and the patient was up and about the house on the tenth day. Manual reduction was accomplished without difficulty in both instances.

Nothing was heard from Mrs. R. B. for four months, during which time she attended to her household duties and she considered herself in excellent health. Suddenly on the evening of February 26th, 1923, while carrying a heavy pail of coal, she experienced a severe vaginal hemorrhage and fell in a faint upon the floor. The physician who attended the last confinement was called. Making a diagnosis of another inversion of the uterus, he advised that she be removed to the hospital. This was refused and another doctor was summoned. He found the patient in shock and attempted to check the hemorrhage by vaginal gauze packs. These packs were removed in 12 hours and others inserted. This was repeated for six days. Profuse vaginal bleeding continued unchecked.

At this juncture, Mrs. R. B. was brought into the hospital and was treated by us for the first time. Markedly exsanguinated, with a pulse of 180 and a temperature of 103 and in a state of profound shock, the prognosis seemed extremely grave. Abdominal examination was unsatisfactory due to the thickness of the anterior abdominal wall. Rectal examination revealed the cervical ring through which the fundus had inverted. A small strip of gauze was found just inside the introitus and upon removing it, a round mass the size of an orange was found protruding through the contracted cervical rim. The uterine mucosa was a dark red and bled easily. Any attempt at reduction was abandoned due to the extreme shock. The vagina was tightly

packed with sufficient gauze to check the bleeding and 2,000 c.c. of intravenous saline were given. The recovery from shock was remarkable. Within six hours, the pulse had dropped to 110 and the blood pressure, which could not be obtained previously, now rose to 90/64. On the third day after entrance to the hospital, the patient's general condition had so improved that reduction of the inversion was favorably considered. Under ether anaesthesia, all manual attempts failed. The reduction by peripheral taxis described by Emmet and cornual and fundal pressure as suggested by Noeggerath were without avail. The anterior colpo-hysterotomy described by Spinelli was then considered the best method of reduction. The technique: The cervical lip on either side was grasped with a volsellum. A transverse incision was made through the vaginal mucosa just below the bladder reflection. The peritoneal cavity was then opened after the bladder had been separated from the uterus by blunt dissection. The entire anterior cervical and uterine walls were then incised down to the fundus. Reduction was then easily accomplished and a wedge shaped piece of uterine wall was removed to aid approximation. The anaesthetist at this point reported that the pulse had risen from 100 to 120 and suturing of the uterine wound was hastily completed. A gauze pack was inserted through the cervix up into the fundus and rubber glove drainage was placed in the anterior and posterior cul-de-sacs.

The convalescence was uneventful. The temperature rose to 103 on the second day, but rapidly subsided to normal. Vaginal bleeding was not excessive. The pulse dropped to 90 and the hemoglobin rose from 20 per cent to 55 per cent. The patient insisted upon leaving the hospital on the fifteenth day, stating that she never felt better.

During the next eighteen months Mrs. R. B. was closely observed. She rapidly regained strength. Her only complaints were of excessive menstrual flowing with an occasional spotting between periods and a dragging sensation in the left lower quadrant when on her feet for several hours. At the end of eighteen months, there was a slight prolapse of the uterus, probably due to the incomplete suturing at the time of the operation.

This interesting case was then lost sight of for three and one-half years. On December 12 of last year, a physician was again summoned to this patient's home and he found her between seven and seven and one-half months pregnant with a breech presentation. Labor pains had been increasing in severity for several hours. This physician insisted that she be taken to the hospital. The delivery was uneventful; the breech delivering spontaneously. There was no traction to aid delivery. Knowing the history of three previous inversions, the attendant placed his hand gently upon the fundus and he states that he could easily feel the uterus flatten at the dome and invert through the cervical rim. The placenta was again attached at the fundus. Separating it quickly, pressure upon the most dependent portion reduced the inversion, though there was considerable blood loss. The hand was left inside the uterine cavity until the uterine muscle was felt contracting about it.

During the puerperium, there was no excessive vaginal bleeding; the temperature did not rise above 100 and the patient insisted upon leaving the hospital on the eighth day. Her present

physician reported this evening that Mrs. R. B. is in excellent health. As she is now but 29 years old, the future may add other interesting chapters to this history.

CAUSES OF ACUTE INVERSION

Many authors have stressed the importance of manipulations in the third stage as causative factors of acute inversion of the uterus. Others have reported cases, such as ours, where no manipulations were employed and they have attributed inversion to a congenital weakness of the uterus. I believe this to be the chief factor in this type of case.

MECHANISM OF INVERSION

W. C. Jones in 1913 best described the mechanism of inversion. He writes: "The fundally attached placenta by its invasion of the inner circular wall of the uterus, and associated uterine blood sinuses, destroys the tonicity of this layer of muscle so that contraction of the outer wall which radiates most strongly from the insertion of the round ligaments below the level of the fundus flattens the dome and allows it and its attached placenta to be gripped by the lower unaffected circular fibers which then extrude it through the os."

TREATMENT

In considering the correction of an inverted uterus, it is the consensus of opinion that unless there is too much shock associated with the inversion, the sooner the reduction is accomplished the better for the patient. However, where the shock is severe, it is best to control the hemorrhage by sufficient vaginal packs and treat the patient for the shock.

When possible, manual reduction is the method of choice. However, as Norman Miller has stated: "Manual reduction becomes proportionately more difficult as the lesion continues and involution with contraction of the cervix may render reduction entirely impossible."

When surgical methods have to be resorted to, the colpo-hysterotomy described by Spinelli appears to be favored by the majority of operators.

SEPSIS OF INVERSION

Sepsis is not a frequent complication of acute inversion of the uterus. In a large group of cases reported, the incidence of sepsis was only 4.6 per cent. In our own case with 4 inversions, there was no sepsis.

SUBSEQUENT PREGNANCIES

A large percentage of these cases give

histories of again inverting with subsequent pregnancies. Especially is this true of those manually reduced. Certainly when a history is obtained of one inversion, the patient should be urged to enter a hospital with the onset of labor.

The management of pregnancies following operative reduction is not universally agreed upon. Phaneuf has stated: "The obstetric future of the woman who has had the Spinelli operation should be that of one delivered by a previous classical Caesarean section." Norman Miller writes: "Where a history of operative correction is given, an uncomplicated confinement may, as a rule, be anticipated. While the possibility of rupture of the uterus must be considered, the chances of its occurring are probably slight."

Our case, I believe, is the first one to be reported in the literature where inversion again occurred after operative measures had been employed to correct a previous acute inversion of the uterus.

N. B.—I wish to thank Doctors John Connell and L. L. Willoughby for the privilege of reporting this case in its entirety.

STATUS LYMPHATICUS

L. R. HIMMELBERGER,

(Pathological Laboratory, Hurley Hospital)

FLINT, MICHIGAN

NECROPSY REPORT

The subject was a colored child from the Pediatric Service of Dr. R. A. Stephenson.

EXTERNAL EXAMINATION

Subject is a male colored child, about nine months old, measures 27½ inches in height, about 40 pounds, very well nourished. The child has a very short neck, well muscled. There are no marks or abrasions on the body. Mid-line incision made. The panniculus over the chest is 2 cm. in thickness.

CHEST AND CONTAINED ORGANS

On opening the chest cavity, the thymus gland appears enlarged, and extends down over the pericardium to a point opposite the fourth rib. It is injected, shows petechial and ecchymotic hemorrhagic areas. The weight of the thymus is 23 gms., measures 8 cm. in length, 5 cm. in width, and approximately 2 cm. in thickness. There are no adhesions in either thorax.

Left lung weighs 100 gms. The upper lobe is crepitant, contains air. The lower lobe feels solid, is a dark red color, has a few nodules on the inside. Cut surface of this lobe drips blood of a dark red color.

Right lung weighs 100 gms., is free from adhesions. The upper lobe is crepitant, a light gray color. The whole lower lobe has a dark bluish discoloration on its surface, has some solid areas.

Cut surface of the lower lobe is dark red color, drips blood freely.

Pericardium contains about 20 c.c. of fluid.

Heart and aorta weighs 70 gms., the epicardium shows a few minute petechial hemorrhages. Valves appear normal. Endocardium normal. Heart muscle normal.

ABDOMINAL CAVITY

The abdominal panniculus is 1½ cm. in thickness.

Liver weighs 350 gms., shows a mottled appearance, varying in color from a light yellow to a brownish mahogany red. On section the liver shows a mild congestion, lobules are distinct.

Gall bladder is dilated and measures about 10 cm. in length, about 4 cm. at its greatest width. There is one enlarged lymph gland along the cystic artery at the neck of the gall bladder. The bile in the gall bladder is of a light green color.

Spleen is rather swollen, about 8 cm. from pole to pole, and about 5 cm. across. It presents a mottled appearance, is of a dark blue color. There are numerous areas of ecchymosis over the surface.

Stomach is of normal size, not dilated.

Pancreas is of normal size, and normal firmness, shows no change.

Retro-peritoneal lymph nodes are markedly enlarged. On section the enlarged lymph nodes show petechial hemorrhage. All mesenteric lymph nodes are also markedly enlarged.

Adrenal gland is small, shows autolytic change.

Kidneys are of normal size, show no change other than persistent fetal lobulation.

Thyroid gland was of normal size.

Micro: Section from thyroid gland shows normal acini, colloid containing, numerous Wolfer's rest cells. There are no areas of small round cell infiltration, and there is no lymphoid hyperplasia seen.

Section from the lungs shows marked congestion of the blood vessels. The alveoli are mostly all engorged with blood, and there is blood seen in some of the bronchi. Another section of lung shows the same picture of massive congestion.

Section from the heart muscle shows no recognizable change.

Section from thymus gland shows extensive hyperplasia, as characterized by new blood vessel formation throughout the parenchyma. There is considerable fibrosis about all of the Hassall's corpuscles, which are scarred and hyalinized, some having the appearance of thrombosed blood vessels. Adjacent to these areas of fibrosis, the lymphoid hyperplasia is quite marked. There are many newly formed blood vessels with nearly imperceptible walls. The blood vessels, both new and old, are markedly congested. There is extensive free blood in some areas. Some slides show the areas of hemorrhage, which in the gross were described as petechial hemorrhagic areas.

Section from liver shows passive congestion, all blood vessels are engorged with blood, and the intra-lobular capillaries are all congested. There is considerable fatty change.

Section from lymph node shows marked hyperplasia, and also shows destruction of the germ centers of the lymph nodes. There is considerable endothelial hyperplasia and extensive new blood vessel formation, all vessels are congested.

Section from spleen shows extensive breaking down of the germ centers, congestion of the blood vessels throughout, the capsule appeared thickened. The germ centers all have a peculiar de-

mobilized appearance. Numerous of the cells in the germ centers seen under high power are multinuclear. In the pulp of the spleen there are immense numbers of red blood cells seen, and there are newly formed blood spaces with only the shadow of a vessel wall. All sections show the change in the germ centers, which appear broken down. The cellular elements are widely separated, except at the periphery, where a more normal appearance is seen. The blood vessels of those germ centers showing the greatest disturbance, show ageing change. The most marked picture in the spleen is that of the destruction of the germ centers and congestion.

Section of adrenal shows marked autolysis, no other change recognized.

Section from the kidneys shows marked congestion, extravasation of free blood in the parenchyma, no other change seen except developmental.

Pathological Diagnosis: Hyperplasia of all lymphoid structures, more particularly of the thymus gland, with fibrosis, extreme congestion. Status lymphaticus. Pulmonary congestion.

The association of hyperplasia of the thymus gland with sudden death was first reported in the eighteenth century by Bichat. Perhaps the earliest contribution of note was that of Paltauf in 1889, who considered hyperplasia of the gland as but one manifestation of what is now spoken of among clinicians as the "Thymico-lymphatic Constitution." He found not only hyperplasia of the thymus, but a similar change in all lymphoid structures.

Authorities differ on the question as to whether a separate clinical entity is represented by this condition, but a large number, notably Warthin, consider the etiology to be a varied one.

The gross pathology consists of enlargement of the thymus gland, and in most cases the lymph nodes, particularly the mesenteric, also show marked hypertrophy. The spleen is usually enlarged, sometimes to the extent that palpation on physical examination is possible.

Microscopically the findings are similar to those given in our autopsy report. They vary considerably, however. According to Symmers, a characteristic finding is focal necrosis of the germinal centers. Warthin calls attention to sclerosis in the thymus, which was seen in the case presented. This is considered as the end point of an attempted compensatory hypertrophy. In cases past the age of puberty hypoplasia of the cardiovascular system is reported, while lesions of the adrenals have been observed by others.

It will be seen from the case presented and from the observations of others that the condition is body wide, and not confined to thymus alone. The cause of death in these cases is problematical. Many sug-

gested theories have been advanced, but the obscure physiology of the gland together with the diffuse pathology presented in cases coming to the post-mortem table have left chaos in their wake. Neither have experimental studies been conclusive.

JAUNDICE

M. S. CHAMBERS, M. D.

FLINT, MICHIGAN

I wish to report tonight a very interesting case of jaundice. My purpose, however, in presenting this case is not so much for a review of the case itself as to call your attention to the method we have recently been using in classifying our jaundiced patients. I will first review the history and physical findings and then refer to the method used to determine the type of jaundice present.

The patient is 51 years of age and a nurse by occupation. She entered the hospital February 13th complaining of jaundice, epigastric discomfort and tenderness, loss of weight and loss of appetite. The symptoms began gradually about six weeks previously with moderate epigastric discomfort and tenderness at first occurring only after meals, but soon becoming practically constant. Shortly these symptoms were followed by jaundice which steadily increased. The patient made no accurate weight observations, but believes she lost about 12 pounds during the previous three months. Clay colored stools were noticed two weeks before admission and except for one yellow stool three days later, persisted until after operation. The urine remained constantly dark from about five days prior to admission until after operation.

The patient had typhoid fever 27 years ago and three years ago the gall bladder, containing several stones, was removed.

The father died of "catarrh of the stomach" and the mother of "diverticulum of the esophagus." Otherwise the history is essentially negative.

Physical examination showed a fairly well developed and nourished adult female. The skin and sclerae were moderately jaundiced. The mucous membranes were of good color. The head and organs of special sense were negative. The neck, breasts, thorax, heart and lungs showed nothing remarkable. The blood pressure was 110/80. The abdomen was symmetrical and level with the thoracic cage. A well healed upper right rectus scar was noted. Palpation showed rather marked diastasis recti. There was moderate tenderness in the pyloric region and a small mass was thought to be present in this area. The liver edge was just palpable below the rib margin in the costal angle. The extremities showed nothing remarkable. The reflexes were normal throughout.

Before going further with the findings in this case let me tell you something of the method of classification to which I have already referred. In the first place we try to fit our jaundiced cases into one of the three clinical types of McNee, namely, obstructive, intrahepatic (toxic or in-

fective) and hemolytic. In order to do this we use the very efficient method recently advocated by McVicar and Fitts of the Mayo Foundation. These authors make the following statement: "In our opinion the essentials to a working classification may be grouped as follows: (1) The reaction of the jaundiced serum to the Van den Bergh reagent (whether direct or indirect); (2) the height and behavior of the serum pigment curve as determined by the Van den Bergh test or by the icterus-index method; (3) the quantity of bile reaching the intestines as determined by siphonage of the duodenal contents, and (4) the presence or absence of pain, and its character when present."

Obstruction to the bile flow is indicated by a direct Van den Bergh. If the obstruction is complete we have the additional findings of a stationary or steadily rising icterus index and continued absence of bile in at least five daily specimens obtained by duodenal siphonage. Constant absence of bile pigment in the stools is also of some aid, but not as important as its absence from the duodenal contents. The type of obstruction can often be determined from the above findings together with a consideration of the age of the patient and the presence or absence of colic. McVicar and Fitts say that painless jaundice in a patient over thirty-five years of age, where complete obstruction has developed quickly, is overwhelmingly in favor of tumor of the pancreas. However, painless jaundice with partial obstruction or a free flow of bile would indicate either intrahepatic or hemolytic jaundice. The latter will usually show the characteristic findings, splenomegaly and increased fragility of the red cells. Painful jaundice, on the other hand, is usually caused by stone in the common duct or occasionally by stricture. In these cases bile can usually be found in some of the duodenal siphonage specimens.

With these observations in mind let us go over the clinical data and laboratory findings obtained in this case.

While under observation the patient's temperature, pulse and respirations remained normal. The weakness, loss of weight and loss of appetite became more noticeable and the jaundice gradually deepened. Daily urine examinations showed specific gravities ranging from 1014 to 1030, acid reactions, one plus albumin, no sugar, no urobilinogen, four plus bile and at times a few pus cells and granular casts with occasionally a few red blood cells. The blood Wassermann was negative. The blood count showed 5,190,000 R.B.C. with 90 per cent hemoglobin, 6,500 W.B.C. with 68 per cent polymorphonuclears, 31 per cent lymphocytes and one large mononuclear. The blood urea was 44, urea nitrogen 20.5, blood sugar 103 mgs. The coagulation time was 4 minutes and the fragility test was well within normal limits. Two fractional gastric analyses showed an absence of free hydrochloric acid in all specimens. The gastro-intestinal X-ray was negative. The Van den Bergh gave a direct reaction. Frequent determinations of the color index showed values ranging from 25 to 35 mgs. Frequent stool examinations showed a constant absence of urobilin. The benzidine test was negative on all stool specimens. Specimens of duodenal contents were not examined because of the patient's objection to swallowing the tube.

In summarizing the case most of us felt that the absence of urobilinogen from the

urine, urobilin from the stools and the persistently high icterus-index with a direct Van den Bergh indicated that we were dealing with complete obstruction of the common duct. Whether repeated examinations of the duodenal contents would have changed our view on this point is of course only speculative. In the absence of this data, however, the diagnostic possibilities were increased so that numerous pre-operative diagnosis were considered with the consensus of opinion in favor of carcinoma at the head of the pancreas. The surgical consultant, Dr. Randall, however, felt that there was too much tenderness for uncomplicated carcinoma. Because of the uncertainties involved and the steadily progressing symptoms exploratory operation was considered advisable. On February 24, a laparotomy was performed by Dr. H. E. Randall, who found the common duct normal in size, but involved in a mass of adhesions extending from the pylorus to the liver. The pancreas appeared to be normal and palpation of the bile ducts revealed no stones. A post-operative diagnosis of obstructive jaundice due to adhesions about the common duct was made. That the obstruction was only partial would seem probable in the absence of any noticeable distention of the duct. Following operation the patient's recovery was uneventful and she appears to be in perfect health at the present time.

INFECTIONS OF THE LIP

GEORGE J. CURRY, M. D., F. A. C. S.
FLINT, MICHIGAN

The fatal case which prompts the presentation of this subject to you, presented the following history in brief:

A young adult, aged 19, was seen in consultation March 6, 1928. He noticed a pimple about the center of the lower lip, one-half inch below the muco cutaneous margin, two days previous. He stated to his physician that he had squeezed it at the time, and his physician further stated that at the time of his first examination there was considerable redness surrounding it with some associated edema. Some pain was complained of. He was seen the following morning, at which time his physician made a linear incision over the area, obtaining a few drops of pus. The edema and redness continued to increase during the remainder of that day, and the following day as well. The patient's general condition suddenly became grave and he was sent to the hospital, in the late afternoon, the second day following his first visit to his physician. At the time of my examination, two days after the onset of his trouble, he was semi-comatose, temperature 104 and 105 degrees, pulse 120, respirations correspondingly increased, and gave the appearance of a very sick man. The margins of the wound were pouting, the entire

lower lip, left cheek, eyelids, and superior tissues of the left cervical and submental region were one edematous mass. There were areas of red and blue distributed throughout this massive edema. I advised non operative treatment, believing the patient to have a septicaemia. The usual supportive measures were instituted, but the patient's condition grew progressively worse, and he died 36 hours following his admission to the hospital. His leucocytes numbered 12,000 with 88 per cent polymorphonuclears on entrance, increasing to 20,000 with 90 per cent polymorphonuclears the following morning. Blood culture taken the morning following his admission to the hospital was positive for *Staphylococcus Aureus*. Necropsy was not obtained.

In reviewing the literature on this subject many cases similar to the above have been reported, calling attention to the occasional and always possible seriousness of facial and lip infections. There still seems to be some lack of unanimity in the treatment of these cases.

You will recall that in and about the lips the muscles are inserted into the skin. There is a scarcity of subcutaneous fat and loose subcutaneous connective tissue in which infection could easily localize. The facial vein is formed by the union of the frontal and supra-orbital, and that portion of the vein which extends from its origin to the lower border of the orbit is termed the angular vein, and branches from this pass backward into the orbit to communicate with the ophthalmic which opens into the cavernous sinus. The later nasal veins arise from a plexus about the alae and tip of the nose and extend upward to open into the lower part of the angular vein. The superior and inferior labial veins arise from venous plexuses respectively in the substance of the upper and lower lips and communicate with the facial vein.

Communication is also established with the deep facial vein, which in turn communicates with the cavernous sinus through the pterygoid plexus. The facial vein and its tributaries to the interior of the skull have no valves so that blood passes from this vessel to the cranial cavity and in a reverse direction with equal facility.

Staphylococcus Aureus almost always is the infective agent. The fatal cases show thrombo phlebitis of the facial vein and its tributaries, which probably accounted for the discoloration of the edematous cheek and lip in this case. Metastatic abscesses of the lung and cavernous sinus thrombosis are also a part of the pathologic picture. It was mentioned that there was abundant vascular drainage of the lip region, thus making more likely venous

thrombosis. The infective agent is also brought into intimate contact with the venous plexuses of the lip due to the absence of connective tissue spaces. The constant motion of the lips may have a tendency to infection dissemination by what may be called a mild degree of squeezing or rubbing of the infection against the vein wall. The edema and pain following, no doubt, has a tendency to inhibit this motion, but at this point another factor enters the picture, i. e., the universal past time of picking and squeezing pimples. I believe we are all convinced, it is true, that force sufficient to express pus from a wound is sufficient to break down the protective wall nature has built, with a resultant dissemination of the infection into the surrounding healthy tissues. It is hazardous to squeeze any infected wound, but perilous to squeeze infected wounds of the nose, face and lips.

Numerous therapeutic agents have been advised in the treatment of this condition, among which may be mentioned, phenol injections, vaccines, cautery, roentgen ray, immediate crucial incisions, wet dressings, constriction hyperaemia, etc., but may I offer the following with indicated reservations:

If the pimples are left alone, they will almost always take care of themselves, and no doubt there would never be any indication for further treatment. When redness and edema of a limited area occur, hot moist dressings frequently applied with the patient under strict rest and close observation, will frequently be all that is necessary. The infection will either subside and absorb, or localize, and in the latter case will frequently decompress itself. If this does not happen, a very small crucial incision over the summit, no squeezing, followed by moist dressings if you desire, and very likely the next time you change the dressings, you will find the contents of the abscess on the gauze. In those cases where there is septicaemia and a positive blood culture, there is no treatment of any avail that I know of.

SOME THOUGHTS ON EPIDEMIC ENCEPHALITIS GATHERED FROM A RECENT VISIT TO EUROPEAN HOSPITALS

A. B. OLSEN, M.S., M.D.
BATTLE CREEK

While visiting the Commune Hospital of Copenhagen last autumn, Prof. August Wimmer, M.D., and Dr. Knud H. Krabbe,

both of the neuropsychiatric department of the state university, showed me their patients, among them a fair number suffering from chronic encephalitis lethargica. We discussed symptomatology, therapy and prognosis, and their knowledge and experience in dealing with these patients impressed me.

KRABBE'S NEW BOOK

In his excellent work, "Lectures on Nervous Diseases," published last year, a book well worth translating into English, because of its straight-forward, clear and simple presentation of the subject matter, Dr. Krabbe, in dealing with epidemic encephalitis, points out that Cruchet, Moutier and Calmette in April of 1917 reported forty cases of a disease which they named subacute encephalomyelitis. Although these were doubtless cases of epidemic encephalitis, scarcely any attention was given to their report. But a little later Prof. Economo of the University of Vienna described under the name of encephalitis lethargica, a disease characterized by paralysis of the eye muscles with diplopia and followed by a period of deep somnolence which might pass into coma and death. This publication aroused the attention of the medical world and numerous other reports and writings speedily followed until we now have an abundant literature on this destructive disease.

NOT A NEW DISEASE

It is the opinion of Dr. Krabbe that we are not dealing with a new disease, but with one that was recognized under the name of lethargic fever in ancient times and in the middle ages. This lethargic fever was associated with paralysis of the eye muscles. He also believes that chorea electrica, which was described by Dubini in the eighteen forties, was almost certainly an encephalitis with myoclonia. Further, he holds that the epidemic nona, which was described in 1890 as a disease which followed in the wake of influenza epidemics was epidemic encephalitis. At that time it seemed to be regarded as a mere curiosity of medicine. Crookshank believes the disease existed in the time of Hippocrates, and that there have been epidemics in European countries the past 450 years.

The protean nature of the symptoms is certainly remarkable. The classical ones of headache, fever, diplopia, and sleepiness are subject to variation. Even the drowsiness, which was at first looked upon as a

constant sign of the encephalitis, is not infrequently absent, and the reverse, sleeplessness, may take its place. Indeed, this is so often the case that Krabbe considers the name encephalitis lethargica unfortunate, and prefers the term epidemic encephalitis, and this is the usual designation not only in Copenhagen, but also in Berlin and Vienna, and, to a less extent, in London.

PROFESSOR WIMMER'S BOOK

In the early days it was generally believed that chronic epidemic encephalitis was a more or less permanent damage or defect following an acute inflammation. Prof. Wimmer was among the first to recognize the fallacy of this view, and he pointed out in his book "Chronic Epidemic Encephalitis" published in 1924 that the disease is really a chronically progressive one with periods of intermission of variable length, and that in this particular it resembles cerebro-spinal lues and disseminated sclerosis. It is very important for the clinician to bear this in mind in dealing with the patients, otherwise he will have no clear understanding of the real character of the malady.

INFLUENZA AND EPIDEMIC ENCEPHALITIS

Dr. Krabbe shows some striking similarities between epidemic encephalitis and influenza to which he calls attention. In the first place epidemics of encephalitis tend to follow epidemics of influenza, a common observation. Neither are accompanied by exanthemata. Putting catarrhal manifestations and involvement of the cranial nerves aside, the most striking symptoms of both infections are: fever, headache, lumbar pains and a varying degree of drowsiness. This being true, we can agree with Krabbe that a large number of cases of epidemic encephalitis are diagnosed in the early stages as influenza, a matter to be kept in mind by the clinician.

In speaking of the polymorphous pictures presented by epidemic encephalitis and comparing it with cerebro-spinal lues and disseminated sclerosis, Krabbe says that encephalitis has a stronger tendency to cause fever attacks, that it affects the alimentary canal more seriously, produces more pronounced neurasthenic symptoms, causes greater disturbance of sleep and of the cranial nerves than either of the two other chronic infections of the central nervous system. In addition, the chronic form is especially inclined to affect the

extrapyramidal motor system and the cerebral vegetative centers.

TYPES OF EPIDEMIC ENCEPHALITIS

Krabbe mentions several types as follows:

1. The classical type, forming only a minority, although a large minority of the cases.
2. The insomnia or sleepless type, associated with marked restlessness and psychic disturbances.
3. The meningitic type, with headache and vertigo as the chief complaints. The patient has Kernig's sign.
4. The hemiplegic type, presenting a picture resembling cerebral thrombosis.
5. Myoclonic type.
6. Neurasthenic type. It is often difficult to distinguish post-infectious cases of neurasthenia from encephalitis. These patients after a fever illness may suffer from tiredness and exhaustion for years, and later develop insomnia, cardiac palpitation, anxiety and pressure of the head. If nothing further develops the diagnosis is, of course, post-infectious neurasthenia.
7. Rheumatic chorea type.
8. Myelitis type, with the inflammatory process localized in the medulla oblongata producing symptoms of an irregular progressive chronic myelitis with spastic paralysis and disturbance of the sphincters.
9. Psychic type with pronounced mental symptoms, and involving, not infrequently in the case of children, a change of character.

Still other varieties are mentioned by Dr. Krabbe. Oligokinesia, bradykinesia, and bradyphrenia or psychic retardation are common symptoms.

The course of epidemic encephalitis may be as irregular and variable as the symptomatology.

PATHOLOGY

According to Dr. Krabbe examination of the brain of a victim of encephalitis shows an appearance quite different from that of other infections of the central nervous system. The marked meningeal or vascular affections which one observes in luetic brains will not be seen, nor the sharply limited sclerotic plaques which one finds in disseminated sclerosis. In this case the brain may have an almost normal appearance macroscopically or only show occasional hyperemic areas. But closer investigation by the aid of a microscope reveals a prominent round cell infiltration of the

blood vessels in certain portions of the brain. This inflammation is most marked in the pons and peduncles in the chronic lethargic cases. In chronic Parkinsonian cases the large ganglia are the chief seat of the pathological processes. There are also cases where the inflammation is distributed in the cortex cerebri and cerebellum as well as the brain stem.

PROGNOSIS

With regard to the outlook Dr. Krabbe holds that at present we know too little, about the course and terminal stages of the disease, to speak with finality, but he would not shut out all possibility that some of the Parkinsonian syndrome patients might not improve in the course of time, and this in spite of the fact, as he admits, that the general tendency hitherto has been toward greater rigidity with its accompanying debility. Other forms of chronic epidemic encephalitis may tend towards improvement, especially those with epileptoid attacks as the most striking symptom.

The doctor emphasizes the importance of always being exceedingly cautious about the prognosis. As a rule in the acute stages nothing can be said about the further course of the disease. If somnolence develops into coma the family should be prepared for the worst. But he also warns against giving too dark a prognosis in the chronic stages.

TREATMENT

Dr. Krabbe is not in favor of malarial inoculation nor protein injections. For sometime he has been giving injections of argotropin, a solution of colloidal silver combined with hexamethylenetetramin. He reports that some of the patients react with a high fever, others are uninfluenced, while still others appear to show some improvement, but he is unable to say whether it is a case of *post* or *propter* in a disease with such a capricious and uncertain course as encephalitis.

He is more optimistic about the use of physiotherapy and in this particular appears to agree with Brandenburg of Berlin who will be mentioned later. Dr. Krabbe favors the use of mercury vapor and carbon arc light baths and thinks they produce considerable subjective improvement in many of the patients. He holds that phototherapy of this kind has a future in the treatment of chronic encephalitis. In addition he mentions massage and both active and passive joint movements as use-

ful procedures. Scopolamine is given to relieve the tremors and atropine to control perspiration and salivation.

BRANDENBERG'S OPINION GUARDED

At the Rudolf Virchow Hospital (2,500 beds) in Berlin it was my privilege to meet that wise and thoughtful philosophical physician, Geheimrat Professor Brandenburg. He is the head of the neuro-psychiatric department and talked freely but not hopefully about epidemic encephalitis. Still, it would not be fair to say that he is entirely pessimistic. For the younger patients under thirty he thinks that something may be done for the milder cases but he is doubtful about the value of the present methods of drug medication. He told me that he had tried all of them, but without material success. It is his opinion that patient and persevering re-education and psychotherapy may help in favorable cases. It is necessary to get the hearty and faithful co-operation of the patient, who must be willing and able to make the necessary effort. Without that little can be done. He demonstrated a number of cases, all practically hopeless. In his terminology it is a question of pedagogy and psychic training. But his general outlook on the future of these patients is certainly gloomy.

THE VIENNA HOSPITALS

Vienna is undoubtedly the mecca of medicine. Here a brief digression may be permissible. The department of medicine of the state university is one of the three oldest medical schools in Europe. For many years it has been famous for scholarship and original research. Wagner von Jauregg, who was awarded the Nobel prize in medicine last year, Economo, the leading pioneer in the study of encephalitis lethargica, Fuchs, famous the world over for his eye work, Freud, the originator of psychoanalysis, Erdheim, the pathologist, to mention but a few of the leading men of today.

Some five hundred or more American doctors visit Vienna annually for post graduate study and clinical experience. About eight years ago a society was organized, called the American Medical Association of Vienna. All English-speaking doctors of medicine in good and regular standing in the profession are admitted to a life membership for the small fee of \$10. This association arranges with the various professors, docents and doctors of the uni-

versity for clinics, classes, lectures, demonstrations, dissections, cadaver operations, ward visits, etc. and assists its members in getting the particular training and experience they desire. The usual honorarium or fee is but \$5 an hour, and most courses run from five to twenty hours. If ten join the class, the cost per capita is only 50 cents for each hour of instruction. If twenty, the expense is halved, only 25 cents a lesson. Cadaver surgery is more expensive, as only two or three can operate at one time. Occasionally it is worth while for one or two doctors to engage the sole attention of the teacher and pay accordingly. The Austrians are good linguists and scores of the professors and teachers give lectures and clinics in English, so that almost all the classes are conducted in our native tongue. Vienna, with a population of about two millions, is one of the most beautiful cities of Europe. It lies on the Danube and is fringed on the south and west by the hills of the Austrian Alps. The Viennese treat Americans with a fine courtesy and consideration, and the members of the medical faculty of the university seem to take a special interest in visiting physicians and gladly give them every possible advantage for medical study and review.

PROFESSOR PAPPENHEIM'S CLINIC

The municipal hospital and infirmary together have about seven thousand beds, affording abundance of material for clinical study and investigation. In pavilion number eleven Prof. Pappenheim has supervision of some three hundred and eighty neurological patients. He welcomes visiting doctors and it is a treat to follow him on his bedside rounds. He too speaks good English and he is always keen to demonstrate cases of particular interest. He had about sixty chronic encephalitis cases under his care, most of them residuals from the epidemic of 1920. Lack of space forbids mentioning cases in detail.

Like most of the neurologists I interviewed, Prof. Pappenheim does not hold out much if any hope for the patient suffering from chronic epidemic encephalitis. He says frankly that he knows of no special treatment or drug for these patients and his view of the prognosis is also a gloomy one. Dr. Ernst Spiegel of the famous general hospital in Alserstrasse takes the same view. It is true that some doctors in Vienna have given these patients inoculations with malaria but as yet

without pronounced results, and most of them are very dubious about this method.

LONDON NEUROLOGIST'S EXPERIENCE

Epidemic encephalitis is not nearly as rare in England as one could wish. In London Dr. S. A. Kinnear Wilson, an internationally known neurologist, alone has about one hundred boys and girls under his care, of all ages up to sixteen. He believes in active treatment and uses freely various injections, scopolamin and other sedatives as well as physiotherapy. Nevertheless, he was quite free to admit that the results are thoroughly discouraging. But he feels it is good psychotherapy to keep up some form of active treatment, and so he tries one after the other. His view of the prognosis was as unsatisfactory as that of other neurologists. With the rest he thinks that there is still much to learn about this devastating disease and its prevention and treatment.

BRAIN HEMORRHAGE

LEO DRETZKA, M. D., F. A. C. S.
(Attending Surgeon, Receiving Hospital)
DETROIT, MICHIGAN

Analyzing the summary of the principal causes of death in the registration area of the United States, it is found that 87,064 deaths in 1925 resulted from cerebral hemorrhage, cerebral embolism, and thrombosis. The number of deaths due to cranial trauma cannot be determined because these deaths are charged to the various varieties of injury. It is safe to estimate that the traumatic group will equal the spontaneous group. Modern traffic accidents in the cities, and industrial casualties, together with brain hemorrhage due to constitutional illness, are rapidly increasing the toll.

Brain hemorrhage may be either traumatic or spontaneous. The traumatic variety belongs to the province of the surgeon and, if seen early and correctly diagnosed, is often amenable to surgical procedure. Modern management of brain injuries in the large clinics is rapidly reducing the mortality rate.

The traumatic variety may be classified as extradural, subdural, and cerebral.

EXTRADURAL HEMORRHAGE

Extradural hemorrhage is usually caused by a rupture of the middle meningeal artery, but may result from an injury to a venous sinus. After a lucid in-

terval, if the bleeding is massive, symptoms of compression appear. The pulse rate is low. The victim is dull, stupid and gradually passes into unconsciousness. If the clots extend toward the base, the pupil is often dilated on the same side and immobile. If the pressure is over the motor area, paralysis of the arm and leg of the opposite side soon follows.

SUBDURAL HEMORRHAGE

The symptoms in this type are often identical to the extradural variety, but more rapid in onset and more profound. Unconsciousness is less gradual, the pulse slow and full and there are other signs of definite brain compression.

A common lesion of the brain is intracranial hemorrhage of the newborn brought on most frequently by the use of forceps in difficult labor. Unlike the traumatic injury in the adult, where the hemorrhage usually is arterial, in the newborn it is most often of venous origin. The superficial veins of the cortex may be torn or the injury may extend into the longitudinal sinus or other vascular areas. The symptoms correspond to those generally found in brain injuries, spastic paralysis being the most common.

TRAUMATIC CEREBRAL HEMORRHAGE

In this variety, the symptoms are not classical and vary with the site of hemorrhage. They resemble the symptoms found in the spontaneous rupture of brain vessels. Intracranial pressure may be great and yet not register an accurate rise when measured by the spinal manometer. The presence of a uniformly blood-stained spinal fluid indicates bleeding in the subarachnoid spaces or into the ventricle.

In the early stage of hemorrhage, the ophthalmoscopic findings are usually negative. Yet this examination should be routine as it may disclose valuable information in late cases. The hyperemia of the discs, the character of the vessels, the edema of the nasal halves in conjunction with other leads may prove important.

SPONTANEOUS HEMORRHAGE

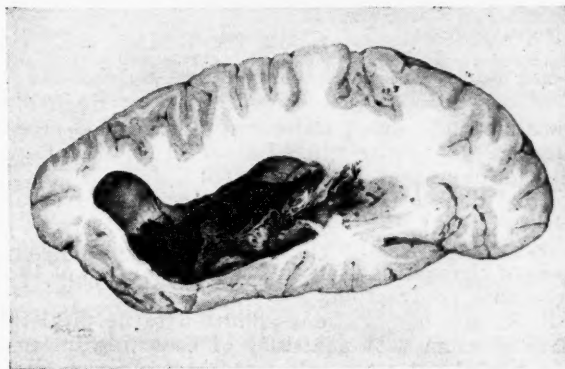
This variety belongs to the province of the internist and the hemorrhage is the direct result of constitutional disease, which has affected the circulatory system. In the aged, it is due to the progressive degeneration of the body tissues with the accompanying inelasticity of the vascular walls. In earlier years, the predominant causes are nephritis, syphilis, blood stream

infections or any of the large group of degenerating diseases.

Apoplexy may occur in any portion of the brain and either from the arteries in the base or cortex. The arteries that most frequently rupture are the branches of the middle cerebral which enter the anterior perforated space. The largest is known as the lenticulostriate or artery of cerebral hemorrhage. An apoplectic hemorrhage occurring in the lenticular nucleus may rupture into the lateral ventricle.

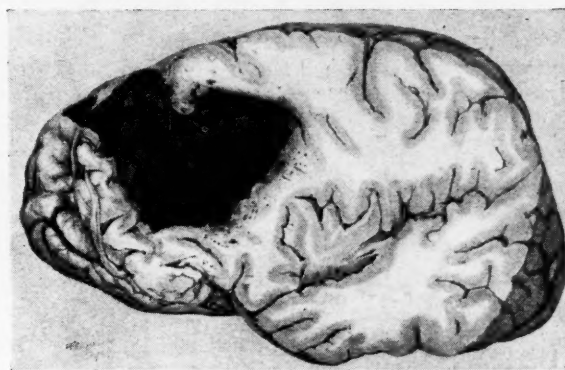
HEMORRHAGE INTO PONS

This variety produces two sets of symptoms depending on the location. If the hemorrhage takes place in the upper portion, it will affect the motor fibres of the face and the extremities of the opposite side. If the hemorrhage is below the point of decussation, the side of the face on the side of the lesion will be paralysed and the extremities on the opposite side. Pontile hemorrhages are usually fatal.



Cerebral hemorrhage, softening of brain tissue and rupture into the ventricle.

W. G., age 27. Patient entered hospital in a state of coma. Physical examination disclosed a well nourished and well developed male who was vomiting and perspiring freely. Pupils were equal and did not react to light. There was spastic paralysis of the left arm and left leg. Incontinence of urine. Pulse 78. Respiration 22. Spinal fluid bloody. Blood pressure 170/42.



Cerebral hemorrhage, frontal lobe.

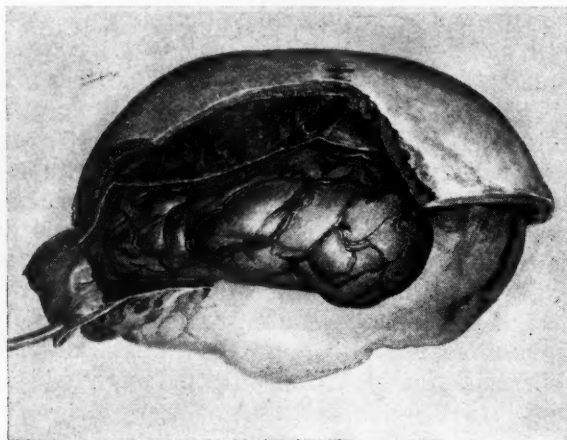
Final diagnosis: (1) Cerebral hemorrhage, right. (2) Syphilitic changes in aorta, pancreas, heart and brain.

A. B., age 40. Patient was admitted to the hospital in an unconscious state, had epileptiform seizure in the admitting room and a similar attack in a taxicab on the way to the hospital. These attacks were followed by several others during the day. Physical examination disclosed pupils constricted and unequal and reacted only slightly to light. The right hand grip was definitely weaker than the left. Urine and blood chemistry

irregular and rapid. The right pupil was smaller than the left and had an irregular margin. The pupils reacted only to light. Blood pressure 130/70. Temperature rose from 98 to 104. Urine examination showed albumin 4 plus. Blood chemistry T. N. P. N. 61 and urea 70. Leucocyte count 10,000.

Final diagnosis: (1) Cerebral hemorrhage. (2) Lobar pneumonia, right.

Associated with: (1) Cardiac hypertrophy. (2) Chronic glomerulo-nephritis. (3) Generalized arterio-sclerosis. (4) Chronic interstitial hepatitis.



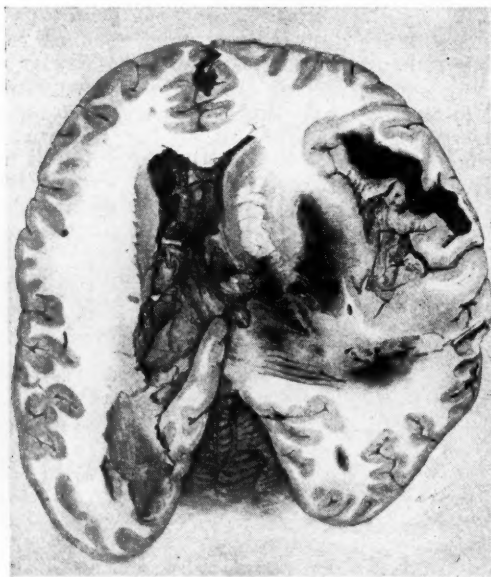
Fracture of the skull with extensive extradural hemorrhage and blood clot causing a compression of the cerebrum.

were normal. Blood Kahn two plus. Blood pressure 132/72. Pulse ranged from 80 to 160. Respiration increased from 20 to 60.

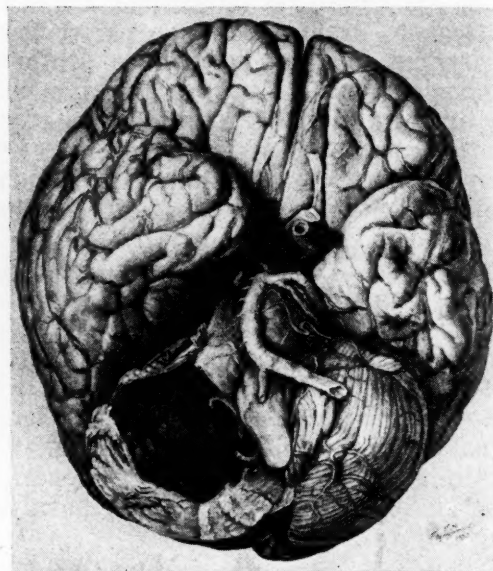
Final diagnosis: Cerebral hemorrhage, frontal lobe.

Associated with: (1) Localized arterial sclerosis of the spleen. (2) Fatty degeneration of the liver with contraction.

S. S., age 56. Patient admitted to hospital in state of coma with a history of becoming unconscious while at work. Physical examination disclosed a well nourished male in a state of coma and complete shock. The respiration was deep,



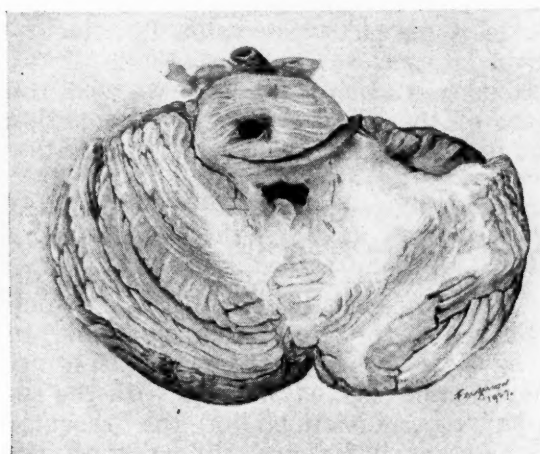
Right cerebral hemorrhage involving the internal capsule and corpus striatum with rupture into the ventricle.



Right cerebral hemorrhage. Sclerosis of the Circle of Willis.

A. W.—Age 60—Patient was taken sick on the street, vomited several times and the speech was unintelligible. Indicated that he had a severe headache. Physical examination disclosed the right eye rotated downward, twitching of the left eyelid and the pupils were irregular and unequal, reflexes exaggerated, urine positive albumin, blood chemistry normal, temperature rose from 97.4 to 102.6, pulse from 100 to 144.

Final diagnosis: (1) Right cerebellar central hemorrhage. (2) Extreme edema of brain. (3) Marked arterial sclerosis of Circle of Willis. (4) Extensive nephritis.



Pontine hemorrhage.

B. R.—Age 35—Seven months before entering the hospital, patient developed paralysis. Had two or three attacks all of which partially cleared up. Has had aphasia for the past two and one-half months. Paralysis came on suddenly. Complete history could not be obtained because of the aphasia. Physical examination reveals a well nourished young adult female, face flushed, exophthalmus present. There is a tremor of the tongue and left hand. Tongue protrudes to the right. Facial muscles of the right side not functioning, mouth being drawn to the left. Pupils are unequal, right being larger than the left, also irregular. Thyroid enlarged. Scoliosis of the spine. Spastic paralysis of the right arm and leg. Urine negative. Blood negative. Blood Wassermann negative. Spinal fluid Wassermann 2 plus. Spinal fluid cell count 30 per cu. mm. B. M. R. Plus 23. Temperature ranged from 96 to 104. Pulse 86 to 160. Respiration 16 to 36.

Final diagnosis: Cerebral abscess with septic thrombi in the cerebellar blood vessels and localized lepto-meningitis.

D. C. H.—Age 50—Admitted to the hospital in

an unconscious state. There is a history of a sudden collapse while dressing. Had severe headaches for three weeks. Pupils were equal and regular. No evidence of paralysis or spasms. Reflexes all present and active. Breathing stertorous, slow, foaming at mouth, pulse slow and weak. Urine, sugar four plus, acetone negative. White blood count 23,450. Blood sugar 580 mg. per 100 cc. of blood. Positive ankleclonus, positive bilateral Babinski.

Final diagnosis: (1) Meningeal hemorrhage involving base of cerebrum, pons, and medulla. (2) Arterial sclerosis. (3) Fatty degeneration and fatty infiltration of the pancreas, destruction with hyalinization of the islands of Langerhans.

M. G.—Age 70—Black—No history obtainable. It will be noted that the clot caused a compression of the opposite cerebral lobe.

Final diagnosis: (1) Massive subdural hemorrhage. (2) Chronic interstitial nephritis. (3) Fibrosis of the spleen and liver.

Post mortem and pathological examinations were made by Dr. O. A. Brines, pathologist, Receiving Hospital. Drawings by Mr. J. H. D. Ferguson.

LETHARGIC ENCEPHALITIS

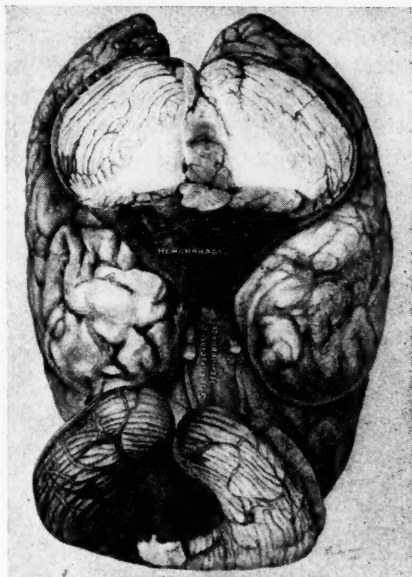
I. L. POLOZKER, M.D.

DETROIT, MICHIGAN

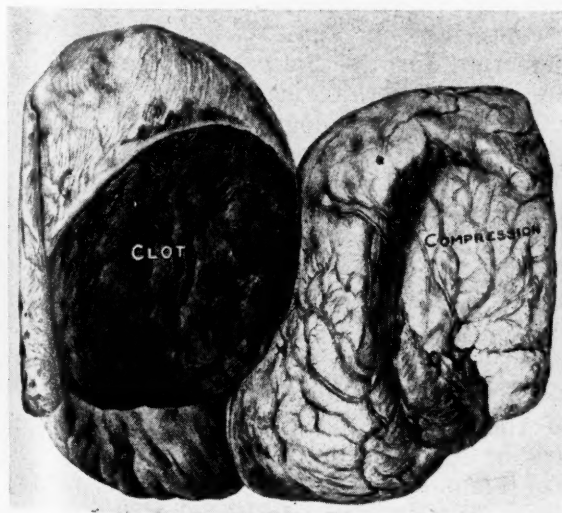
Lethargic Encephalitis has been known to exist as far back as 1712. The first description of this disease was made at that time in Tübingen, Germany, and it has been known in literature under the name "Sleeping Sickness." A condition beginning with LaGrippe, muscular pain, somnolence, diplopia, muscular paralysis of the extremities, which lasts for months, has been very well studied following the influenza epidemic in 1916 and 1917. Very little can be added to the symptomatology and pathology of epidemic encephalitis. Before discussing our own cases, I wish, however, to make a few remarks concerning Lethargic Encephalitis and the way it impresses me clinically. Some clinicians claim that Lethargic Encephalitis is contagious, which, however, I failed to observe in practice.

I have had the opportunity to observe cases of Epidemic Encephalitis together with other clinicians, in private practice, in various hospitals and have never been able to find it to be contagious. The record charts of the Receiving Hospital, in Detroit, from January 1, 1927, to December 31, 1927, show that there has been 30 diagnosed cases of epidemic encephalitis. This is, however, not the actual number of cases in this hospital.

The majority of cases in our series, are early adults. There was one case of a baby one year old, who died after eleven days of illness. There were 20 males, and 10 fe-



Basilar meningeal hemorrhage.



Subdural hemorrhage with cerebral compression.

males, in our material; 14 patients were discharged to relatives; 13 were sent to Eloise Hospital, one to Pontiac State Hospital and one to Psychopathic Hospital of Ann Arbor. The influence of hereditary factors were absent, no history of psychosis.

There were eleven cases during the same time at Eloise Hospital, all adults, all males. Four gave a clear history of having had influenza previously. In the others, a history of influenza was not obtainable and in none were there any history of insanity in the patient or his family. Eight cases are in the hospital at the present time. Three cases were improved and discharged. In the eight remaining cases, two are decidedly worse, and the condition of six is unchanged. There are, at the present time, at the Infirmary at Eloise Hospital, twenty four cases, all whites; six are women. (The cases I have seen are all white people.)

Some text books classify this disease as follows:

1. Lethargic Group (stupor, pupillary changes, ocular palsies.)
2. Hyperkinetic Group (ticks.)
3. Psychotic Group (deliriums, manias.)
4. Parkinsonian Group.

The disease is divided into acute, sub-acute and chronic forms. We failed to see any subacute cases in our series. The cases go right on from acute to chronic. Of course, there are a good many cases that we see later, a good many years afterwards, that show end-results of this disease and which form a group by themselves; they are put in a class which shows the post-encephalitis syndrome and of which a large group is the so-called Parkinsonian type, constituting about 75% of all encephalitis cases.

Encephalitis may follow any infection, but I am interested in those forms of encephalitis following influenza. It is surprising, in taking a history, how many of these cases have had influenza. It is true that a good many will only remember of having had fever, cold; but on thorough investigation, we find that they have all been laid up in bed with it, and from the symptoms described, it was evidently more than a cold. Usually people do not stay in bed for weeks with an ordinary cold.

ETIOLOGY OBSCURE

As to the etiology of this disease, very little is still known, in spite of all of the

contributions of Strauss, Rosenow and others. Strauss described a virus which he isolated from the nose, throat and brain washings and claims that when this virus is injected into animals it produces epidemic encephalitis. Rosenow has isolated a streptococcus from the nasal secretions, tonsils, teeth, sinuses, blood and spinal fluid in patients of epidemic encephalitis, and injected it in rabbits; he claims that symptoms similar to that in man have been produced. (There is a slowness of movements, muscular tremor, rigidity, drowsiness, and irregularity of breathing.) Others have found the virus in the spinal fluid and the brain; when inoculated into monkeys produced similar symptoms as in man.

Epidemics of hiccoughs are claimed by some to have relation to epidemic encephalitis. Rosenow also isolated a streptococcus from the nose and throat, and animals injected with it presented symptoms of lethargica. The virus of herpes, can, in rabbits, produce a disease which resembles human encephalitis. But, it is as yet, not conclusively proven.

SERUM IN TREATMENT

Rosenow has even gone so far as to make a serum and used it in cases of encephalitis; he claims some benefit.

We feel that since the first epidemic, that is ten years ago, this disease has become somewhat milder now, possibly due to the fact that the causative agent has become somewhat attenuated.

From a clinical standpoint, a relationship of influenza to encephalitis lethargica is parallel to the one of rheumatism to chorea. Because of affinity to the nerve tissue, the noxe may cause chorea without causing rheumatism first. In influenza streptococci, in some cases, have a predilection for the nervous system causing encephalitis lethargica.

As to the pathology, there are no gross pathological changes visible. Hyperemia in spots, and sometimes the entire gray substance is affected.

Histological changes: There is a perivascular infiltration with lymphocytes and round cells affecting the blood vessels of the mid-brain and basal ganglia. Hemorrhages and degenerative changes, necrosis in spots, and degeneration of the walls of the blood vessels. The chief changes are in the ganglion cells and the cortex. The virus seems to have a predilection for the central regions in the brain. (Mesencephalitis.)

SYMPTOMS

The disease comes on in many ways, the first symptom depending upon the initial site of the lesion. Usually the onset is relatively sudden; headache, sometimes vomiting, general malaise and fever. In children, there are sometimes signs of meningismus, diplopia and sleeplessness, which gradually progress to somnolence leading to lethargica. Patient sleeps constantly, but can be aroused. Ask him a question, he may answer it, and go right on to sleep; always complains of feeling tired. Ptosis, diplopia, increased salivation, nystagmus. During the acute stage in the delirium, I have seen the patient talk continually, usually about business affairs, transacting business with very brisk commands, as in one case a business man giving orders, selling certain things. Their business seems to be on their mind and their general life is expressed in the delirium. Very often, so maniacal that they have to be restrained in bed.

The disturbance of sleep may take on the form of insomnia, or a reversal of sleep. Insomnia at night, sleepy by day.

A symptom noticed often, in a few of our cases, was a forced upward movement of the eyes, which were fixed towards the ceiling; during this attack the patient cannot close his eyelids, or move his eyes in any other direction. Sometimes this may be a downward stare or a lateral, and may last from a few minutes to several hours. The patient has to close his eyes with his hands.

During this attack the pupils do not react to light or accommodation and at the end of the attack the eyeball is inflamed and there is a slight secretion formed. This movement of the eyes may be upward, downward or lateral. We see cranial nerve paralysis, with predominating of the seventh nerve. Encephalitis patients may have different forms of muscular spasms like for instance, the head bending forward and sometimes the whole body. Great difficulty in getting up when he is sitting or laying down, and in fact a great difficulty in getting started in all his movements, and even in his speech. If a sharp command is given him, he will try quickly to follow your command, to get up or say something, but he immediately slows down or stops until another command is given. Sometimes the patient is in a state of immobility, only trying to do something when he is sharply asked to. He is drowsy, constantly fatigued, speech is slow, drooling

of the mouth, difficulty in breathing; the patient cries easily, has a masked like face, exhibits anxiety, and pleads for help. There is a state of rigidity, and hyperaesthesia of arms, legs, and immobility of all of the extremities. One cannot fail to notice, when watching a chronic encephalitic patient, how much he resembles a person of old age or one of general senility.

ENCEPHALITIS IN THE AGED

We have in old age, loss of memory, inhibition of ideas, loss of ability to grasp events; shaking, and a downward tremor of the head, a general tremor of other extremities, slow movement in getting up or sitting down, drooling from his mouth. Dreaming and drowsy by day. Sleepy anywhere or any place, and often complaining of insomnia at night. Loss of fine movements of the extremities, which are especially noticeable when he eats or dresses himself.

My attention has been called to the fact that even bedridden patients can do things the first thing in the morning on awakening, for themselves, like dressing, etc., without any difficulty or tremor which they cannot do later in the day. This lasts only from fifteen minutes to one-half hour when they fall back into the old condition. It has also been noticed that these patients can run on command, very fast, without stopping. We had them running in a long corridor in the hospital, so fast that one could hardly keep up with them, and stop instantly when ordered, getting out of other people's way and seemed to hold their heads erect.

The micro organism which causes this disease may lie dormant for a long while, then flare up suddenly. This is noticeable in the Parkinsonian type, which description comes to us from the French writers; it resembles paralysis agitans of old people. But, encephalitis is usually a disease of young adults. The tremor is coarser and the distribution more limited. They often have difficulty in speech; drooling of the saliva, and a tendency to hiccoughs. The residual effects in these cases are, facial tick, clicking noises of the tongue, and also certain residual paralysis. Respiratory disturbances, diabetes insipidus, other metabolic disturbances are often present. The blood sugar curve is disturbed in encephalitis, showing disturbances of sugar metabolism. The sugar curve and colloidal gold in the spinal fluid is high, in the acute cases. The examina-

tion of the spinal fluid of our cases, shows the colloidal gold and sugar curve normal.

PSYCHOSIS IS NOT A SEQUELLA

We do have patients presenting a picture of absent mindedness, forgetfulness and even sometimes showing hallucinations of a religious character or delusions of persecution or other psychopathic changes, but this is only transitory. The patient may have a lack of attention, but not of memory.

In children this lack of attention, restlessness, over production or slowing down of impulses is becoming quite a problem in our schools. It is highly probable that the delinquency of a good many children of school age is due to the end results of encephalitis. We note the work that is being done in Philadelphia, reported by Dr. Bond, where this problem came up very acutely.

As to the treatment, we have all tried hyoscin and temporary improvements noticed; especially the tremor. Personally I have gotten just as good results from belladonna, using it in large doses from 20 to 30 drops three or four times a day. This tremor has been reduced materially and the patient more or less quiet; injections of sterile milk, iodine, nicotine and autogenous serum have been also used, but without any results.

Recently we began to use Ringer's solution which we inject warm (105° Fahrenheit) into the buttock or back, alternating each side 1000 C.C. twice weekly. Ringer's solution, or as it is called, the Ringer-Locke solution, contains in 1000 parts of distilled water:

Sodium Chloride.....	9.0	parts
Potassium Chloride.....	0.42	"
Calcium Chloride.....	0.24	"
Sodium Bicarbonate.....	0.1	"
Glucose.....	0.1	"

This solution has been used at St. Luke's Mental Hospital at Middlesborough, by Dr. John P. Steel in toxic psychosis. They have noticed improvement in the physical condition of the patients and a good deal of mental improvement. Our reason for using this Ringer's solution in chronic Lethargic Encephalitis is, because we feel that there is a toxicity, and whatever virus may be the etiological factor of this disease, it is probably present in the nerve tissue, just as the *Spirocheta pallida* is present in tabes, dorsalis, and general paresis.

We also feel that there is a great deal of hysteria associated with chronic encephalitis and many of the symptoms presented in this disease may perhaps account for it. The value of the injections is also partially of psychic nature.

There were no ill effects from the treatment. Temperature, pulse, and respiration were taken two, four and six hours after each injection. The temperature, two hours after the injection, went up to 101, 102 F. in some cases; the pulse ranged from 120 to 125 in all the cases. Just what benefit can be derived from this solution, I am not prepared to say. Time shall show how durable and successful this treatment is.

So far, we have been able to notice out of our 10 cases treated the following: Three of them, (moderate cases) recovered almost completely, the tremor has disappeared, speech and writing normal, walk steady and firm; no salivation and perspiration. Maskface is hardly noticeable; smile is normal. Two other cases, (severe) which were bedridden and helpless are up and walking around, appear very cheerful. One who slept constantly every time we used to come into the ward is up in the ward, asking when the next injection is going to be given to him. while previously he was indifferent to the treatment.

The four other cases were considerably benefited by our injections and subjectively feel very well.

NOTE—Read with presentation of cases before the Detroit Society of Neurology and Psychiatry at the Eloise Hospital, April 12, 1928.

TUBERCULOUS TRACHEO-BRONCHIAL ADENITIS

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Recent medical literature has contained much reference to "hilum tuberculosis". The committee of the American Sanatorium Association in 1924 recognized "Hilum Tuberculosis" as a diagnostic term. The hilum, however, is a space and not a structure. Therefore, "tracheo-bronchial adenitis" has, in this paper, been substituted for the term "hilum", since the tracheo-bronchial glands are definite anatomical entities and may be affected by disease. This group of glands is made up, according to Stoll, of three smaller groups, namely: (1) the tracheal glands, surrounding the trachea, in direct relation with the

superior vena cava, the pneumogastric and the recurrent laryngeal nerve, (2) the glands at the bifurcation of the trachea in relation with the pneumogastric nerve, the pericardium and the esophagus, (3) the hilum glands along the bronchi. This last group according to Stoll is the most frequent seat of caseation and calcification. Clinically, it is impossible to determine which of these three divisions is involved. Therefore the term "tracheo-bronchial adenitis" will include all three groups.

All enlargements of the tracheo-bronchial glands are not due to tuberculosis. Nobecourt places a large share of the blame upon adenoids. Bernard and Vitry include tonsillitis, measles, whooping cough and appendicitis as causes of such glandular enlargement. In addition to these, sinusitis, Hodgkin's disease, neoplasms, aneurism, certain congenital hear lesions, especially a patent foramen ovale, and an abscess from a thoracic Pott's disease may produce signs and symptoms simulating tracheo-bronchial adenitis. The enlargements due to acute conditions such as those mentioned above, rapidly subside, as a rule, so that at a subsequent examination all signs of enlargement may have disappeared. When the signs and symptoms persist, tuberculosis must be suspected.

The frequency of infection with tuberculosis in children has been estimated by many observers. The following percentages of positive tuberculin tests in children were found: Hamburger¹ in Vienna 94%, Calmette¹ in Lithuania 87%, Mioche¹ in Paris 82.7%, Fishburg¹ in New York 80%, Slater² in Philadelphia 80%, Fergusson³ in Saskatchewan 56.6%, Furstner-Risselada⁴ 20% up to seven years and increasing to 50% by the thirteenth year. Pieser⁵ in Germany 56%, Czerny and Moro⁶ 60%, Armstrong⁷ in Framingham 54% at seven years of age. In the rural districts of Minnesota, Slater² found only 10%. In children under two years of age the percentages are much lower and more consistent. For this group McLean and Jeidell⁹, in New York, obtained 10.5%, Parisot and Saleur¹⁰ in Nancy, France, 13%, Sander¹¹ in Dortmund, Germany 15%, Myers and Magiera¹² in Framingham 15%.

TYPES OF TUBERCULOSIS

Chadwick¹³ divides tuberculosis of childhood into three types according to the age of the child: (1) General or infantile type, occurring from birth up to five years of age, with the most dangerous period from birth to two years of age. (2) Hilum

or juvenile type, occurring from five years up to twelve years of age. (3) Adult type, occurring from twelve years onward. This division into age groups is well recognized and is shown in the children under our care. The second and third groups of this classification comprise only the intra-thoracic forms of tuberculosis. Bone and joint tuberculosis may attack any age; peritoneal involvement occurs most frequently in the child or young adult; cervical adenitis accompanies, most frequently, the second division of Chadwick's classification and intestinal tuberculosis is most frequently the sequel of pulmonary involvement.

Referring to the records of this sanatorium, we find that of 426 children up to 15 years of age admitted to the sanatorium, 51.8% were diagnosed tracheo-bronchial adenitis, 12.4% pulmonary tuberculosis, 14% bone and joint tuberculosis, 1.1% peritonitis or enteritis, 3.8% generalized tuberculosis, 1.4% cervical adenitis, 11.5% some non-tuberculous condition. This will give some definite idea of the percentage of children who fall into each of Chadwick's groups. It will also show the great preponderance of tracheo-bronchial adenitis. Fifteen and four-tenths per cent of the pulmonary group were less than 5 years of age, and 8% of the tracheo-bronchial group; 44% of the generalized tuberculosis group were infants.

TRACHEO-BRONCHIAL ADENITIS

This paper is mainly concerned with tuberculous tracheo-bronchial adenitis. A definite diagnosis of the condition is difficult to make and many children have been so labeled because of an inability to account in any other way for their symptomatology. Opie¹⁴, McPhedran¹⁵, Rathburn⁸ and many others have emphasized the importance of tuberculous disease of these glands. Opie says that "tuberculous tracheo-bronchial adenitis is an indication of a severe infection and such infection may not only be carried to the lymph nodes but may also remain latent in the lungs and develop after the glandular disease gives evidence of healing." In a later article, Opie in conjunction with McPhedran says "tracheo-bronchial lesions are important because they indicate a severe infection and children in whom such lesions occur are liable to develop diffuse pulmonary lesions." The complications which may accompany or follow this adenitis are a further proof of its seriousness. A rupture of a caseous gland may produce

a bronchial spread; tuberculous broncho-pneumonia may develop with extensive signs, yet with low fever; epituberculosis¹⁶ characterized by the occurrence of an extensive pneumonic consolidation in a child with tuberculous tracheo-bronchial glands or other relatively mild manifestations of the disease may occur. Hemoptysis and spontaneous pneumothorax never result from disease of the glands, but are more common as a result of caseous pneumonia, which in itself, may result from a spread of the disease from the adenitis. Hemplemann¹⁷ says that "rupture of a caseous lymph node into a bronchus or the trachea may cause severe asphyxia or even death." Poynton¹⁸ and Williams have reported a case where death occurred from blocking of the air passages by a caseous gland.

There has been much discussion as to whether the pulmonary focus or the glandular focus is the primary lesion. Wollstein¹⁹, Jousset²⁰, Barjon²¹, Laroux²², and Honeij²³ believe the primary focus is in the glands. Honeij says "any involvement of the hilum region, whether lymphatic, pleural, glandular or otherwise, may indicate either a pre-pulmonary tuberculosis or an early pulmonary lesion." Overend and Bebert²⁴ say that the parenchymal lesion may develop gradually by infiltration from the hilum. Lapham²⁵ looks on the bronchial glands as the primary chancre of infection, the bacilli being transported from the glands to the lung.

This opinion has not been accepted by many. Parrot²⁶ said "there is no bronchial adenopathie which has not a pulmonary origin," and further, "the primary lung foci in children are practically always accompanied by tuberculous changes in the lymphatic glands adjoining the lungs." Kuss's opinion was also in favor of the primary lung focus. Ghon²⁷ elaborated Kuss's work and reported that he found a primary pulmonary focus in 95% of his cases of venous angle lymph node tuberculosis. In a later communication, Ghon referred to 41 cases, in 38 of which he found a primary lung focus. In 29 of these microscopic tuberculous changes were found in the lymph nodes of the broncho-mediastinal lymph drainage, which extended to the venous angle. Ghon also showed that "alterations in the lymph glands were never absent in children on the side of the lung focus." Blumenberg²⁸, Canti²⁹, Tenderloo³⁰, McPhedran, Lange³¹, Schurmann³², Hedrin³³, Naesland³⁴, and Czerny³⁵ are all agreed that the

primary focus is in the parenchyma of the lung.

LESION SHOWN BY X-RAY ONLY

Pulmonary lesions are frequently present at the same time as a tracheo-bronchial adenopathy, though the pulmonary lesion may be so small that clinical examination fails to demonstrate its presence, and only on the X-ray plate is its presence shown. In practically every case where a diagnosis of tracheo-bronchial tuberculous adenitis has been made at this sanatorium, there has been some evidence of a previous pulmonary lesion either in altered breath sounds or by the presence of strands of fibrosis leading from the parenchyma of the lung to the tracheo-bronchial glands (as shown on the roentgenographic plate). In one case in particular, the X-ray plate showed the path taken by the disease from the primary focus near the pleura to the hilum. The primary focus showed as a well defined clear cut shadow, and interspaced between it and the hilum were several shadows suggesting remnants of previously enlarged lymph nodes. The tracheo-bronchial glands, in this instance, were much enlarged and apparently partly calcified; the enlargement was sufficiently great to produce clinical signs. In many cases no evidence of fibrosis could be made out, by the roentgenologist, but the primary pulmonary focus was sharply outlined. The weight of evidence brought out not only by the work done in this sanatorium, but also by the work of others which has been quoted, seems to prove that the primary focus is in the parenchyma of the lung and not in the tracheo-bronchial glands.

DIAGNOSTIC FINDINGS AND SYMPTOMS

The American Sanatorium Association Committee in its report in 1924 accepted the following findings and symptoms as diagnostic of tuberculous tracheo-bronchial adenitis:

(1) Symptoms:

- (a) local: colds, cough, hoarseness (rarely loss of voice).
- (b) constitutional: fatigues, lassitude, nervousness, anorexia, normal or subnormal weight, poor posture evidencing the poor muscle tone due to fatigue, sweating (excessive sweating from slight cause, not usually night sweats) temperature 99.6 to 100.5. The presence of such local conditions as phlyctenular

keratitis or conjunctivitis as evidence of poor general physical condition.

- (2) Physical signs:
 - (a) percussion: paravertebral or parasternal dulness.
 - (b) auscultation: rales usually are due to other causes than hilum tuberculosis so very little of positive value may be elicited.
- (3) X-ray: one or more of the following:
 - (a) prominent bronchial trunks, with beading or nodular formations, extending from the hilum.
 - (b) enlarged lymph nodes, embedded in thickened tissues of the hilum.
 - (c) diffuse shadows of varying densities throughout the hilum.
- (4) Tuberculin test positive.
- (5) In making a diagnosis all other causes of similar symptoms and signs must be ruled out.

To these five points may be added three more: (1) a history of exposure to tuberculosis, (2) anaemia and (3) D'Espine's sign. In the event of all these eight points (history of exposure, malnutrition, loss of weight or a failure to gain weight, anaemia, elevation in temperature (low grade, especially the afternoon temperature), positive tuberculin test, X-ray findings and physical signs) there is little question of the correctness of the diagnosis. But it is seldom that even a majority of these points is present. Kennan Dunham accepts three of these signs as sufficient, namely: (1) X-ray, (2) impaired paravertebral resonance, (3) D'Espine's sign. If in addition there is a history of exposure to tuberculosis, that determines the diagnosis in his mind. If low grade elevation of temperature, rapid pulse, loss of weight or failure to gain weight, and a history of exposure are present, in the absence of the three signs mentioned above, Dunham labels the patient "potentially tuberculous" and advises that the child be admitted to a preventorium. Most tuberculosis pediatricians agree upon the acceptance of any five of the eight points as being sufficient.

The various points will next be considered in detail:

History: Fraser³⁶ and McRae believe too much stress has been laid upon the history of exposure to infection; that a negative history does not exclude tuberculosis as the cause of symptoms. The oppor-

tunity for exposure is so great in the average community that direct exposure can hardly be said to be necessary.

MALNUTRITION NOT RELATED TO T. B.

Malnutrition: Hetherington³⁷ denies that malnutrition in underweight children has any relationship to tuberculosis. In his series of 1,999 children between five and sixteen years of age, 72.5% of the overweight and 71.5% of the underweight children reacted to 0.1 mgm. of tuberculin. In the summer camp work at this sanatorium we have placed all children who are 10% or more underweight in the malnutrition group. In the past two years full data have been kept on these children and of the 400 who have passed through the camp during this period, 372 have shown a combination of findings which may be of interest. Of these 372 children, 239 were 10% or more underweight on admission. Of this number, 183 reacted to less than 0.1 mgm. of tuberculin; while the remaining 56 failed to react. Eight of the 372 were above normal weight and did react to tuberculin, 125 were less than 10% below normal weight and of these 96 reacted to tuberculin and 29 did not. These figures show that very little diagnostic value can be placed upon malnutrition. Approximately three times as many reacted to tuberculin as did not, both in the malnutrition group and in the group classified as normal. The fact that there were almost twice as many children of the 372 who were in the malnutrition group as there were "normal" weight children may be dismissed, since these children were selected through the Department of Health of Detroit because they were either below weight, or because of the history of exposure to tuberculosis along with other significant symptoms which warranted their being placed in the camp.

Fraser and McRae³⁸ lay more stress upon the failure to gain properly than upon actual underweight. Failure to gain properly may be in part due to home conditions. In this connection it is interesting to note that the gain in weight of the children in the summer camp has been 5.71 pounds in seven weeks on an average in the past five years, showing that under proper surroundings and good food these children will return to almost normal weight in a comparatively short period of time. Some of these children have gained as much as 24% in weight during the seven weeks of their stay in the camp.

Anaemia: While every author speaks of anaemia as one of the criteria upon which to base a diagnosis, no definite statistics upon the question have been found. The hemoglobin percentage in children between five and twelve years of age is normally about 20% below that of adults. Analyzing the figures for the camp and also for the children's division of this sanatorium, the hemoglobin percentage of the children on admission is found to average about 75%.

Temperature: McPhedran¹⁵ states that "fever, indicated by a slight abnormal elevation of temperature is an uncertain guide in children for the regulatory mechanism is either incompletely developed or extremely sensitive, so that trivial and obscure causes may produce fever." Morse believes that "tuberculosis is the least probable cause of continued fever in children." Cantien³⁸ cautions that "latent fever may be due to non-specific infection of the glands as shown at autopsy." The statements of these men will readily be accepted by any one working with children and who has seen acute elevations of temperature in children from benign causes. As an instance of this, reference may be made to one of the children in the children's division here. This child's temperature rose to 106° and physical examination failed to show any cause for this extreme elevation in temperature other than an acute follicular tonsillitis. Twelve hours after commencing treatment the temperature had fallen to normal and has not shown an elevation of more than a part of a degree since. In considering the condition on admission of the children who are, at present, patients in the sanatorium, we find that 85% did have some fever upon admission.

HUMAN AND BOVINE TUBERCULIN

Along with the question of temperature, must be considered the pulse rate; 80% of these same children had an increased pulse rate.

Hempleman¹⁷ advises the use of both human and bovine tuberculin as a routine.

Some of the children will react to human, some to bovine, and some to both human and bovine. In our work here we have limited ourselves to the routine use of human tuberculin and have made use of the intradermal method. This method assures a better controlled dosage and the reactions can be interpreted more uniformly. While the majority of children over twelve years of age react to tuberculin, as

was mentioned in the opening statements, the intensity of the reaction showed marked variations, some showing only a slight erythema, others induration and vacule formation, with the induration and erythema extending from 40 to 60 mm. in diameter. McPhedran¹⁵ says that a "marked reaction to 0.01 mgm. of tuberculin in a child under five years of age is sufficient to warrant therapeutic and preventive means even in the absence of a demonstrable lesion.

In conjunction with the tuberculin tests, many are now using complement fixation tests. Gugelot³⁹ places great stress upon the shifting of the nuclei of the neutrophil leucocytes. He says that an increased spread of sedimentation plus a shifting of the nuclei is most significant and was present in 80 out of 95 patients with active disease, and never present in those with inactive disease. It is his belief that the shifting of the nuclei is due to the infection and that its presence shows activity still present. The increased sedimentation rate, on the other hand, is due to pathological destruction of the blood cells, in his estimation.

X-RAYS HAVE SET NO STANDARD

X-ray: Hawes⁴⁰ has not seen any evidence that roentgenologists have settled upon any standard in the interpretation of root shadows. McPhedran⁴¹ notes "that frequently in the presence of a slight apical lesion, a more definite infiltration in the upper part of the lower lobe or in the anterior lappet of the upper lobe, gave a roentgenographic appearance sometimes described as hilum tuberculosis. He also doubts the value of the X-ray in early lesions." Only when calcium infiltration of a necrosed area was present was there any distinctive shadow—a protrusion of the mediastinal wall beyond the shadow of the spine and sternum by caseous lymph nodes is rare except in fatal infantile cases. De la Camp⁴² has said the X-ray diagnosis of Tracheo-bronchial glands is the most difficult of all roentgenographic work, only calcified glands giving a clean cut picture. Calcification, however, may require as long as four and one-half years to develop (McPhedran¹⁵) or may appear as early as six months (Geipel⁴³). Schurmann³² reports a case of petrified glands at nine and one-half months of age and says that calcification of a caseated area may not occur for as long as four years. Sulka⁴⁴ and Stoll⁴⁵ describe the hilum shadow as extending from the anterior tip of the

third rib to the sternocostal junction of the first rib, and laterally for various distances on the right. This shadow may bulge into the region of the inner aspect of the lung. Nagel⁴⁶ recognizes that the shadow of swollen and cheesy glands is less clear and may not be decognized. Kramer⁴⁷ describes the eaten out appearance of the shadow as being due to blood and lymph vessels. Fraser³⁶ and McRae also believe the hilum shadow may be due to lymph nodes or to bronchial tubes, blood vessels or connective tissue. Felix Baum⁴⁸ has called attention to the interspace between the heart and the hilar shadow, which is normally clear, but in the presence of enlarged tracheo-bronchial glands becomes clouded or even dense. Burns and Myers⁴⁹ emphasize the value of serial plates showing a persistently enlarged hilum, and in this connection Honeij²³ draws attention to the change of the X-ray shadow from time to time, during the course of the disease the tendency being for a large soft shadow to become progressively smaller and denser. In the same article he says: "In certain cases of tuberculosis, especially the peri-bronchial type, the hilus shadow enlarges progressively to a certain point and then contracts and becomes denser." Minor⁵⁰ in 1919, gave a very excellent description of the fluoroscopic picture of enlarged tracheo-bronchial glands.

PHYSICAL FINDINGS AND X-RAY

During the past two years we have made a practice of frequently comparing the physical findings with X-rays. In several cases the small, indefinite, hilum shadow has been seen to grow progressively larger, becoming more fleecy in outline and appearing almost to melt into the parenchyma. Later this shadow receded, became denser, even showed evidence of calcification, leaving behind its receding edge, in the parenchyma, fine strands of fibrosis which may be interpreted as proof of parenchymal invasion. This parenchymal infiltration may have been a manifestation of a secondary infection with tuberculosis rather than the result of a spread from the gland, and may have co-existed with the glandular infection, and have been overlooked owing to the enlargement of the glandular shadow overlying and obscuring the roentgenographic evidence of the parenchymal involvement.

Tuberculosis is not the only cause of enlargement of the tracheo-bronchial glands. How may the shadows cast by enlarged glands due to other causes than

tuberculosis be differentiated? McPhedran¹⁵ says that "large succulent, intrapulmonary, nontuberculous glands due to acute infections did not throw shadows which would cause confusion with tuberculous disease. In the case of extrapulmonary glands, glands containing soft, fresh caseations due to acute, rapidly advancing infection, were similar in density to non-specific edematous nodes, and were distinguishable only if they became large enough to bulge out the silhouette of the areolar mantle." Tuberculosis however, is the only disease which will produce caseation followed by calcification. Therefore, in the presence of calcification the diagnosis may be made with certainty.

INSIDIOUS ONSET

Schlossman⁵¹ comments upon the insidiousness of the onset and especially upon the lack of change in the general physical condition. This, he states, is characteristic of tracheo-bronchial lymph node tuberculosis. McPhedran⁴¹ says "there are no symptoms due to uncomplicated tracheo-bronchial tuberculosis which has not extended beyond the capsule of the lymph node." However, in most of these children there are symptoms which will cause us to suspect disease and attempt to rule out tuberculosis.

The following symptoms were emphasized: Poor or capricious appetite (Schlossman⁵¹, Hemplemann¹⁷); irritability, morning languor and fatigue (Von morning languor and fatigue (Von Ohlen⁵²); irregular fever otherwise unexplained and of a low grade (Anderson⁵³); pain of indefinite origin in the chest on deep breathing or after vigorous exercise (Dautwiz⁵⁴); and pain in the mammary region (Kramer⁴⁷). Pleural pain is infrequently complained of by children even when there has been extension of the disease to the pleura (Hemplemann¹⁷). Cough has been mentioned by many authors (Ohlen⁵², Mackenzie⁵⁵, Lowman⁵⁶, Marfan⁵⁷). It is described as brassy in character. MacKenzie states that the cough is incited by stimulation of terminal filaments of the superior laryngeal nerve, a branch of the vagus. The vagus is sensory below the superior branch, and continued pressure by glands may cause hypersensitivity and cough. Lowman says the cough is due to collateral inflammation of the bronchi in children with tuberculous glands, is recurrent in winter, persists and later gives rise to fine moist rales. Marfan says the bitonal cough in infancy is always

diagnostic of tracheo-bronchial tuberculosis and is the result of tracheal compression. Von Ohlen speaks of night sweats and anaemia, but Hemplemann states that night sweats are infrequent in children. While night sweats have occurred in our series of cases, they have practically always occurred in children in whom the disease was no longer limited to the glands. Excessive sweating, without apparent cause is more frequently seen and is, rather than night sweats, to be inquired after in the history. Hemoptysis is a rare occurrence in children (Hemplemann) and is seen only in the presence of a parenchymal lesion. Clubbing of the fingers is seldom if ever seen in tracheo-bronchial tuberculosis and where it is present speaks more for a congenital heart lesion (Hemplemann). Von Ohlen points out that there may be a retardation of as much as two or three years in the growth of these children. This excessive retardation has not been observed in the majority of cases, though lesser degrees of retardation have been noted.

DIAGNOSIS, WHEN RECOGNIZED

Diagnosis: According to Opie and McPhedran¹⁴ tracheo-bronchial lesions are recognized only when the infection has been intense and prolonged. Norris and Landis⁵⁸ admit that the physical signs are quite as inconclusive as the symptoms.

In the 1921 English translation of his book, Much⁵⁹ has given the following outline for the diagnosis of tracheo-bronchial tuberculous adenitis:

(a) general complaints — exhaustion, emaciation, digestive disturbances, catarrhs, shortness of breath, palpitation, pallid appearance, weakness, lack of appetite, irritability, profuse perspiration, changes in the child's nature (mental and physical—such as a tractable child becoming stubborn, etc.).

(b) irregular, low grade fever, frequently appearing only in the afternoon.

(c) history of measles, whooping cough or influenza. During and immediately following these diseases, the antibodies against tuberculosis are diminished or disappear entirely, as evidenced by the Von Pirquet reaction. In the case of influenza, he believes the tubercle bacilli in the glands are reactivated. Pleurisy is also indicative of tuberculous infection.

(d) cough; may be absent, catarrhal, metallic or whooping in character, and in the last case the condition may be, and

has been mistaken for whooping cough and the underlying cause overlooked. Difficult breathing and rattling during expiration may also be present.

(e) D'Espine's sign—Much gives the following levels as the limit for the different ages;—seventh year, 7th cervical vertebra; eighth year, 1st thoracic; eight to twelve years, 2nd thoracic and up to the fifteenth year, to the 3rd thoracic vertebra.

(f) percussion of the vertebral column.

(g) X-ray.

To these Norris and Landis⁵⁸ add, engorged veins over the upper chest, dullness of the 1st and 2nd interspace close to the sternum and vertebrae, most marked on the right side. Eustace Smith⁶⁰ sign;—a venous hum at the root of the neck over the sternum, which is quite common in healthy children of stubby stature and short necks.

Dautwiz⁵⁴ says "the child may be frail or robust; the condition may hide back of the rosy cheeks of a happy contented child who is kept in good physical condition." Fifty per cent of children showing dilated veins over the anterior thorax react to tuberculin. Slight puffings of the face and eyelids from venous obstruction may be present. There may be a slight inequality of expansion in the apices. De la Camp⁴² mentions that the Adam's apple may be stationary. Stoll⁶¹ refers to what he calls a "Hilum dimple."

On palpation, there may be tenderness over the manubrium sterni and at times at the sterno-costal junction. This is suggestive of active bronchial adenitis according to Petruschky⁶². This tenderness is more common over the spines of the upper vertebrae and due to periosteal irritation, according to the same author. Backache in the interscapular region is complained of early in adenitis, but advanced cases do not complain of this backache. Seventy-seven out of 79 of Peturschky's cases complaining of backache, reacted to tuberculin. MacKenzie⁵⁵ says that tenderness over the 1st, 2nd, 3rd and 4th thoracic spines rather indicates the heart as the seat of the trouble; whereas, when the tenderness is over the 4th, 5th, 6th, 7th and 8th thoracic spines, the stomach is more likely to be at fault.

Dullness over the manubrium sterni is of little use, since the thymus, persisting usually to the sixth year, may even persist to the twelfth or thirteenth year, and may produce dullness, according to Dautwiz⁵⁴. Spinal percussion is of value according to

Auenbrugger⁶³, Ewart⁶⁴, Von Korany⁶⁵, and DeCosta⁶⁶. De la Camp⁴² after extensive investigation accepts spinal dullness as of much value in the diagnosis of enlarged bronchial glands. Normal dullness extends to the 4th thoracic vertebra, according to these authors; below that level it indicates mediastinal tumor. Nagel⁸⁷ shows that even so small amounts of wax as 15 cc. injected into the cadaver in this region produce dullness and he attempts to show that the dullness is due, in the living, to lessened pulmonary resonance owing to the enlarged glands pushing the lung aside. Kramer⁴⁷ says paravertebral dullness may be increased either unilaterally or bilaterally and may be unequal, due to engorged blood vessels, lymph vessels and from glandular pressure. In his estimation the dosage of tuberculin, in treatment, should be influenced by the size of this dullness. Gittings, Lathrop and Anderson⁶⁸, in examining sections of frozen bodies, found the lungs to be separated two to three cm. in children, and claim the paravertebral dullness is due to this separation. Bing⁶⁹ attributes the dullness at the right apex to bronchial glands, not, as Kronig⁷⁰ says, to upper respiratory disease, since the greater number of bronchial glands is on the right side. Others contend that a sense of resistance to the percussing finger, rather than impaired resonance, is diagnostic.

VALUE OF VOICE SOUNDS

D'Espine's sign has been much discussed. De la Camp⁴², says that the bronchial character of the voice sounds may be absent over the upper thoracic vertebra, but present at the 5th thoracic and below. In eliciting this sign he uses the count 1-2-3, and emphasizes the prolongation of the final E. This prolongation is normally found over the trachea. Gray⁷¹ draws attention to the post-phonical quality of the spoken voice and to a splitting of the syllable. He also notes that the bronchial quality of the note may be lost if the stethoscope is moved to either side, and agrees with de la Camp, that the bell of the stethoscope must be applied directly over the vertebra. If the bronchial quality of the spoken voice does persist to the side of the vertebra, it may closely simulate the sounds heard over a cavity. Should the vocal resonance over the vertebra suddenly become distant, while above and below the vocal tone is full and resonant, it designates a softened gland, according to Gray,

since a softened gland is a poor sound conductor.

The Committee on Study of Normal Chests in Children⁷² stated that D'Espine's sign is of doubtful value. McPhedran⁷³ shows by clinical and X-ray studies that D'Espine's sign bore no relation to the presence of tuberculosis of the mediastinal lymph nodes, recognizable in the X-ray, by calcification and infiltration, even when the size of the shadow reached 3.5 by 2.5 cm. The determination of a diminution of resonance in the inter-scapular region requires such nicety of technique that even masters of percussion disagree as to the presence or absence of significant findings in this region of the chest.

Laennec⁷⁴ is quoted as saying "In persons, however, of delicate and feeble frame, particularly lean children, there frequently exists in this (the interscapular) situation a bronchophony very similar to the laryngophony already noted." Anderson⁷⁵ thinks the seventh cervical vertebra is much too high a point at which to seek the changed voice sounds. He also says the whispered voice over the spines is not a definite sign of tuberculosis, and places great value in interscapular dullness, which, while difficult to elicit, is, according to him the better diagnostic sign.

C. L. Minor⁷⁶ stresses the presence of a sibilant inspiratory sound transmitted downward to the lower level of the trachea, rather than the changes described by D'Espine. Hetherington³⁷ has found a positive D'Espine's sign, paravertebral and parasternal dullness, and vesiculo-bronchial breathing in the interscapular region in normal children.

So much for D'Espine's sign, and impaired resonance in the inter-scapular region. Grancher finds that weakened inspiratory breath sounds at the apex, due to bronchial gland disease, antedates bronchophony. Eustace Smith⁶⁰ in describing the venous hum which has been given as one of the signs for tracheo-bronchial adenitis, admitted that this hum was especially common in short necked children, although uncommon after the thirteenth year. In his original article he said the sign was due to pressure on the left innominate vein by enlarged glands at the lower end of the trachea.

Miller and Woodruff⁷⁷ described crepitant rales in the fourth, fifth and sixth interspaces in the mid-clavicular line in cases of hilum enlargement. Hemplemann¹⁷ says that "one primary bronchus may be so compressed as to produce absence of

breath sounds in that side, simulating a foreign body in the bronchus." He also speaks of prolonged expiration, increased voice sounds, especially whispered voice, harsh breathing or broncho-vesicular breathing, or even tubular breath sounds over the apices. If the glands are greatly enlarged, pressure on the vena cava may produce cyanosis or edema of the face, according to Hemplemann and there may be stridor with dyspnoea, simulating croup, asthma, or enlarged thymus. This author also calls attention to the expiratory whoop or stridor seen in infants with enlarged tracheo-bronchial glands. This stridor is also referred to by Schick⁷⁸ who thinks it is produced by pressure upon the bronchus. However, this last statement is offset by McPhedran's⁴¹ findings. "Neither in post-mortem material nor in the living, have we seen evidence that tuberculous tracheo-bronchial enlargements may give rise to mechanical stenosis."

Several conditions were mentioned earlier in this article which must be considered in differential diagnosis. The final diagnosis of tracheo-bronchial adenitis due to tuberculosis can be made only after ruling out the above conditions, and applying of the various confirmatory tests. Opie and McPhedran¹⁴ have said that it takes an average of four and one-half years after exposure to produce calcification in the glands and that therefore an absolute diagnosis of tracheo-bronchial adenitis cannot be made in any child under five years of age.

FINAL RESULTS AND PROGNOSIS

At the present time a paper is under preparation dealing with the final results and prognosis in the children who have passed through this sanatorium. J. A. Watt⁷⁹ in 1924 gave his results in 117 children followed from 1918 to 1924. Out of 117 children diagnosed as having had tuberculous tracheo-bronchial adenitis, only one was dead, and 97 were quiescent or improved in 1924. Forty-eight per cent of these children had had tubercle bacilli in their sputum. The majority of children with uncomplicated tracheo-bronchial adenitis cough very little and do not raise sputum. Whether positive sputum might be found in these children by artificial stimulation of coughing, and the gathering of the sputum so produced on applicators, has not been tried in this sanatorium. The staff of this sanatorium does not believe that it is possible for tubercle bacilli to be present in the sputum in purely glandular

cases, and further, that where positive sputum has been present, is convinced that either a rupture of a caseous gland has occurred or that there is some active pulmonary involvement present, from which the bacilli are shed. The prognosis of these cases will depend in a large part upon the condition of the patient at the time of diagnosis. The adenitis, in itself, is benign, but if it is permitted to progress, may become a matter of great concern. Kramer⁴⁷ has put forward evidence to suggest that a tuberculous infection may die out so completely as to leave no evidence of its former existence even by cutaneous tuberculin tests. In 1919, Krause⁸⁰ referred to an Italian boy of fourteen years of age whom he had observed since 1909. At that time he had multiple lesions of the bones, glands, peritoneum, and also phlyctenular conjunctivitis and positive lung findings. He reacted, at that date, to 0.00001 mgrms. of tuberculin. In 1917 he was tuberculin negative, showing signs of a clinically arrested disease. When examined again in 1918 he was still tuberculin negative and showed no evidence of activity anywhere. On the other hand, we have all seen cases discharged from sanatoriums as quiescent, return to the sanatorium, even after very short periods outside, with an extension of the disease and involvement of the parenchyma of the lungs.

Of the 90 children in the children's division of this sanatorium, there are, at present, 20 who have been diagnosed as having tuberculous tracheo-bronchial adenitis. A short resume of the history, symptoms, X-ray and clinical findings of a few of these children will be given in an attempt to substantiate the diagnosis and show upon what findings we feel justified in making the diagnosis.

ILLUSTRATIVE CASES

(1) Guy S.—age 7 years—father and mother tuberculous. History on admission: emaciation, cough, slight chills, weakness, indigestion, weight 8 per cent below normal, slight elevation of temperature (99.2) rapid pulse (108), Hemoglobin 10 per cent below normal. On physical examination the following findings were noted: D'Espine's sign positive, bronchial breathing over both apices posteriorly, attacks of dyspnoea and cyanosis, pleurisy at the left base. Roentgenological examination showed a dense pleural shadow over the left base, hilum much enlarged and outline of shadow very irregular, becoming almost fleecy at the edge. Tuberculin positive.

(2) Elinor S.—age 2 years, sister of the above. No other history of exposure except as given above. The child was brought into the sanatorium because the mother was admitted as a patient. Temperature 99.8; hemoglobin 20 per cent below normal, weight below normal.

D'Espine's sign positive, a few rales were heard over the left base, slight impairment of resonance over the right apex posteriorly. X-ray plates showed an increase in the hilar shadow. Tuberculin markedly positive.

(3) George M.—age 10—Father died of tuberculosis shortly before the child was admitted to the sanatorium. The child had slept with his father. Two sisters have been patients in the children's division of this sanatorium. Complained of some pain in the chest, cough, sweats, fever. Temperature on admission 98. Pulse 106, 25 per cent below normal weight, hemoglobin 10 per cent below normal. D'Espine's sign positive, rales have been heard over both bases, posteriorly on several occasions, but are not always present. Pleurisy at the left base in 1925. X-ray plate shows an enlarged hilar shadow, also a pleural line at the left base. Tuberculin positive.

(4) Lorne S.—age 7 years—Grandmother and one sister diagnosed as tuberculous. He has a history of weakness, fatigue, loss of weight, sweating, poor appetite, fever. Temperature on admission 98.6, pulse 74, 11 per cent below normal in weight. Hemoglobin 20 per cent below normal. On physical examination the following was found: chronic discharging right ear, enlarged cervical glands on both sides, D'Espine's sign not definitely positive, breath sounds increased over the left apex. Hilar shadow slightly enlarged. Tuberculin positive.

(5) Charles B.—age 2 years—Mother was a patient in this sanatorium, and died of tuberculosis shortly after admission. There is no other history of exposure and symptoms, because of the age of the child, are lacking. Temperature 99 degrees, weight 27 per cent below normal, Hemoglobin 5 per cent above normal. D'Espine's positive, and a few indefinite scattered rales were heard over the left base. Roentgenological examination showed an enlarged hilar shadow, and some fibrosis in the second interspace on the left. Tuberculin markedly positive.

(6) Adelle B.—age 4 years—A sister of the above. Father said the child had had a cough and sweated excessively. Temperature on admission 99 degrees, weight 28 per cent below normal, hemoglobin 16 per cent below normal. D'Espine's sign positive, no other physical signs. The X-ray plate showed an enlarged right hilum, and some fibrosis at the root of the right lung and extending out into the parenchyma in the fourth space.

These cases are representative of tuberculous tracheo-bronchial adenitis. A brief summary of the history and physical findings in the 20 cases in the sanatorium at the present time shows the following:

(1) History: A positive history of close exposure to a known open case of tuberculosis was obtained in 18 out of the 20 cases (95 per cent).

(2) Malnutrition, or underweight in 9, or 45 per cent, (10 per cent or more under normal weight on admission).

(3) Loss of weight or a failure to gain in weight in 7, or 35 per cent.

(4) Fever; 17, or 85 per cent either gave a history of having had some elevation of temperature previous to admission or did have an elevation in temperature on admission.

(5) Sixteen, or 80 per cent had a rapid pulse rate.

(6) Anaemia; seventeen, or 85 per cent showed a hemoglobin percentage, 8 per cent or

more below normal for the age of the child. We have based our estimations on the tables prepared by Williamson.

(7) X-ray; sixteen, or 80 per cent, showed some abnormality of the hilar shadow which was interpreted to mean enlargement of the tracheo-bronchial glands. In addition, seven of the twenty showed evidence of a past or present tuberculous infection in the parenchyma of the lungs.

(8) D'Espine's sign; thirteen, or 65 per cent showed a change in voice conduction below the level at which such change would normally be heard for the respective age. Since there is much dispute concerning the proper normal level for this change in voice, the levels in use at this sanatorium will be given:

First year: First thoracic vertebral spine.

Second to fourth year: Second thoracic spine.

Fifth year: Third thoracic spine.

Sixth and seventh year: Fourth thoracic spine.

Eighth to twelfth year: Fifth thoracic spine.

(9) Tuberculin; seventeen, or 85 per cent reacted to 0.01 mgm. human old tuberculin intradermally. Children who do not react to 0.0001 mgm. old tuberculin are retested with increasing doses of tuberculin up to 0.01 mgm. If the result with this dosage is still negative, the diagnosis of tuberculous tracheo-bronchial adenitis is qualified by the addition of "quiescent" or "healed" depending upon the physical findings, leaving these findings as evidence of a former activity.

EVALUATION OF SYMPTOMS

A resume of the 20 cases referred to above demonstrates the importance of symptoms as follows: Cough 55 per cent, weakness and fatigue each 30 per cent, excessive sweating and shortness of breath, each 25 per cent, pain located somewhere in the thoracic cavity, 15 per cent, expectoration also 15 per cent, chills, poor appetite, restlessness or nervousness, each 10 per cent, indigestion was complained of only once in the 20 cases.

In 60 per cent of these cases, physical examination produced abnormal chest findings exclusive of D'Espine's or Eustace Smith's sign, 20 per cent had enlarged cervical glands and 25 per cent showed other indications. From the above, there is little room to doubt the probable accuracy of the diagnosis in these 20 children. History, fever, anaemia, X-ray, tuberculin—five out of the eight essential points were present in the greater percentage of the cases. D'Espine's sign, taken with whatever value it deserves, was also present in the majority. On this basis, lacking any more absolute proof, the diagnosis is justified.

I would like to add a word concerning the relative importance of the signs and symptoms as we rate them.

1. History: Much has been said of the relative value of a positive as against a

negative history of exposure. We have been accustomed to lay great stress upon the history, and if we can establish a definite history of direct contact, feel that tuberculosis must be ruled out rather than a diagnosis of tuberculosis established by ruling out the other causes of the symptoms. Asserson's⁸¹ work has shown the mortality of infants with a positive tuberculin test who were in direct contact with an open case to be almost 50 per cent before their fifth year. On the other hand she finds that only 12 per cent of tuberculin positive children of the same age, who were not exposed, died by the fifth year. In other words, the presence of a definite exposure increases the mortality over 3 times. In this sanatorium we have only 12 beds for the care of babies, that is, children under four years of age. Every child in this section at the present time has a definite history of direct exposure. Five of them are under two years of age. The ultimate prognosis is, of course, very poor, though the immediate results of treatment seem good.

2. The general physical condition has not been stressed by any of the authors referred to. In examining the children on admission to the sanatorium, we make a routine, thorough examination without special reference to any one part of the body. It is well recognized that good general physical condition is seldom found in the tuberculous child, even in the early stage of the disease. If the general appearance of the child is poor, we place as much value upon that finding as we do upon the summation of the other physical findings. If the general physical condition appears good, yet there are present some suggestive findings, as well as suggestive symptoms, we feel, as in the case of the negative history, that the presence of a tuberculous infection must be proven, rather than established by elimination.

3. If roentgenologists are not agreed upon what constitutes the picture of tracheo-bronchial adenitis, the same can be said for the clinicians. No hard and fast rule can be laid down in the X-ray diagnosis of the condition. De la Camp expresses the matter well when he says that this is the most difficult part of X-ray work. Experience alone will teach the roentgenologist what must be considered as a pathological shadow, and this experience must be obtained in conjunction with the clinician. As has been said earlier in the paper, the density of the shadow may vary from a faint shadow, with fleecy out-

line, simulating a parenchymal infiltration to a prominent, well outlined, opaque mass, admitting no doubt of the enlargement. If enlargement were the only thing to be looked for, the matter would be much simpler. But, in addition, the roentgenologist is expected to offer some estimation of the probable activity of the disease from the plate, and to say whether there is shown any involvement of the parenchyma. The shadow of the enlarged glands may cover up the picture of parenchymal infiltration, and even though serial plates are taken, the parenchymal involvement may be missed. There is no doubt but that, if plates are taken frequently enough, traces of the route of infection from the parenchyma to the glands in the vast majority of tracheo-bronchial adenitis patients will be seen. The X-ray films of the children in this sanatorium are read by a consultant roentgenologist, with the clinician present. The result is a correlation of X-ray and clinical data, which leads to a standardized interpretation of the shadows.

4. The cutaneous tuberculin tests are not sufficiently accurate either in dosage or interpretation, and we have replaced them with the intracutaneous test. All children, on admission, receive one-tenth of one c.c. of a one in one-thousand dilution of O. T. If this is negative, the dosage is increased and the test is termed negative only when a dosage 0.01 mgm. of O. T. has been reached without the occurrence of any local, general or focal reaction. In the presence of a consistently negative reaction, the child is observed for a period of thirty days, then brought before a clinical staff meeting, and failing, then, to show any evidence of activity is discharged with a diagnosis of "no active tuberculosis present." The intensity of the reaction, as has been said, varies considerably, not only for different children, at different ages, but also in the same child. If there is present a markedly positive reaction to 1/10th c.c. of 1 in 1000 O. T., we feel there is little doubt of the presence of tuberculosis in the child, and if in addition the physical findings and the X-ray point to tracheo-bronchial gland enlargement, we feel that sufficient to diagnose the child. The younger the child in whom the intense reaction occurs, the poorer the prognosis, the more certain the diagnosis, and the more likelihood of the presence of other tuberculous lesions. If the reaction to 0.01 mgm. of O. T. is slight, we accept the finding as evidence of an infection, but require definite clinical findings before a diagnosis of

activity is made. 0.01 mgm. will be considered by many to be too small a dose at which to stop in the testing of these children. We prefer to accept a negative reading of the test rather than to push the dosage to the limit. We feel certain that 0.01 mgm. of O. T. is a perfectly safe dose to use where the smaller dosage has resulted in a negative reading, and furthermore, have failed to see any harmful results from its use. Almost every child will react to a large enough dose of O. T., but there is danger from too large dosage and we prefer to be on the conservative side. The dosage in common use here increases the following dose ten times that of the previous dose, and even where the former dosage may not have produced a reaction, ten times that dosage often gives a reaction that is almost alarming in its intensity. Therefore the smaller the dose that will suffice to establish the diagnosis, the better.

Considerable space has been given to these four points, History, General Physical Condition, Roentgenologic Findings, Intradermal tuberculin, in the diagnosis. It is upon these that we place the most value and while we do seek for and note any of the other signs which may be present, we make use of them only as confirmatory evidence, not as diagnostic points. All of them are worth seeking, and their presence will increase the certainty of the correctness of the diagnosis, the seeking for them make for a more careful examination.

SUMMARY

An early diagnosis of tuberculous tracheo-bronchial adenitis is of the utmost importance, but there is no method at our disposal at present by which the adenitis or its tuberculous character can be established with certainty. None of the authors quoted agree upon the value of the various signs and symptoms.

D'Espine's sign and Eustace Smith's sign have both been shown to be without diagnostic significance. Intradermal Old Tuberculin tests and the shifting of the nuclei show the presence of a tuberculous infection, but do not prove whether the infection is active or quiescent. The sedimentation and complement fixation tests, even when positive, are inconclusive.

The change in resonance in the paravertebral and interscapular area is most difficult to demonstrate. This change is very slight and requires the touch of a past

master of percussion. The vast majority of us will fail to find it.

Even when all of the physical signs and the roentgen film are characteristic of enlargement of the tracheo-bronchial glands, the specific nature of the enlargement remains to be proven.

A sufficiently large dose of Old Tuberculin will produce a focal reaction in the diseased area and thus prove its tuberculous nature, but doses large enough to produce a focal reaction frequently reactivate a previously quiescent lesion.

A history of exposure to an open case of tuberculosis, a positive tuberculin test, suggestive roentgenologic findings, coupled with physical signs suggesting the presence of infection in the child, are sufficient to warrant further observation of the child either in a preventorium or sanatorium.

CONCLUSION

A review of the literature and consideration of our own cases demonstrates the inadequacy of our present methods of diagnosis of tuberculous tracheo-bronchial gland enlargement.

The presence of any five of the eight symptoms and signs (history of exposure, loss of weight or a failure to gain in weight, malnutrition, elevation of temperature, anaemia, physical signs, X-ray, positive intradermal Old Tuberculin test) in a child, warrant its observation either in a preventorium or a children's sanatorium, where a more detailed study of the case may produce evidence which will warrant a positive diagnosis of tuberculous tracheo-bronchial adenitis, or rule out the presence of tuberculosis as the cause of the symptoms and signs. We attach the greatest diagnostic value to the history of exposure, general physical condition, tuberculin and X-ray findings.

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LOCAL ANAESTHESIA AND ITS FATALITIES

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The subject of local anaesthesia and its fatalities is a very difficult one to discuss because of the unreliable statistics available. The medical profession is very prolific in reporting its successes, but decidedly averse to publishing the fatal results of its procedures. This is especially true of operations in which local anaesthesia has been used as they are frequently operations of choice advised and urged by the surgeon.

However, several investigators, most prominent of whom is E. L. Mayer of New York city, have with great patience collected information regarding many of these fatalities. It is from these reports that much of my material has been taken.

Before we can consider the fatalities, however, a short history of local anaesthesia and its progress is essential to an unbiased conclusion.

HISTORY

Tradition cites many attempts on the part of Egyptian, Chinese, Greek, and Roman physicians to remove certain diseased parts of the human body without pain. Stupifying drinks of alcohol and juices of narcotic plants were used for centuries in the search for painless surgery. During the Middle Ages these drinks were abandoned and using narcotic inhalations, the skill and speed of the surgeons were relied upon to successfully complete their operations. Compression of nerve trunks was tried and discarded as it so frequently resulted in gangrene from blocking of neighboring circulation. Chilling the tissues was popular toward the latter part of the fifteenth century, forgotten and then tried again three hundred years later with some success. Many used local applications of chloroform or ether, or cataplasms of poppy, henbane, and mandrake root, but with very discouraging results. A combination of chloroform and the cataphoric action of the electric current was advocated by Adamkiewitz until it was proved by Wagner and others that cataphoresis did not occur with a non-conductor such as chloroform.

Brown-Sequard claimed that they were able to anaesthetize the larynx by passing a stream of carbonic gas over the back part

of the throat, but Lewin in 1862 made the statement that a drug for producing local anaesthesia of the larynx did not exist.

For some time after Alexander Woods invention of the hypodermic needle, morphine was injected around nerves for local anaesthesia, but the procedure did not prove valuable.

In 1884 cocain was first used as a local anaesthetic and the new era began. Prior to this date local anaesthesia had been a failure, but its use now became widespread, although only for minor surgery. It was many years before it was tried to any great extent in major operations.

Cocain derived from the coca plant indigenous in Peru and Bolivia, but later introduced into India, Ceylon and Java, has been cultivated since prehistoric time. It played an important part in the religious and political life of these countries and is still used by natives to increase their wakefulness and physical powers of endurance.

Due to the wholesale and indiscriminate use of cocain, many accidents resulted and the first objection to the general use of local anaesthesia was expressed by Hoffman and Frankel. Accordingly extensive research was started on derivatives of cocain. Giesel introduced the first, tropacocain, a new alkaloid derived from Java coca leaves. This was followed in rapid succession by bucain, holocain, eucain, nirvanin, ansemin, akoin, stovain, alypin, anesthin and novocain. Later substitutes which have been developed are butyn, propasin, subcutin, orthofrom, nirvain, chloritone, apothesine, quinine urea, hydrochloride and preparations such as Harris solution and Schleich's solution.

PHYSIOLOGY OF LOCAL ANAESTHETIC

Cocain, the first and typical local anaesthetic, acts physiologically as a protoplasmic poison. The symptoms manifest themselves at the point of application or injection, and after absorption at distant parts of the body. Locally cocain paralyzes the function of the peripheral nerves and the stripped and smooth muscle fibers without permanent damage to the tissues. If it is in sufficient strength, heart muscle is also paralyzed. The local application of cocain causes a contraction of small capillaries and arteries, especially in mucous membranes, so that locally the blood supply is temporarily diminished. This effect causes the absorption to take place more slowly, thereby producing a more intense local paralysis. Cocain introduced into the body and absorbed by

the circulation may act upon the protoplasm of organs in places remote from the point of introduction. These organs will respond to the toxic agent with irritation or paralysis if the blood passing into them contains sufficient quantities of the drug. The heart is much accelerated in mammals due either to direct action on the muscle or by stimulation of the accelerator mechanism. The combination of constricted blood vessels and accelerated rate of the heart leads to a very considerable rise in blood pressure. Small amounts tend to cause marked pallor of the intestine and powerful peristalsis while large doses cause dilatation of the mesenteric vessels and lessen movements of the bowel, probably through paralysis of the local nervous mechanism. It forms a chemical combination with protoplasm and when broken is not liberated as cocain, but as ecgonin which has slight toxic action. When toxic action results it is because an excess has been used over what was necessary to saturate the tissues and paralyze the nerves. Applied to the eye, it produces local anaesthesia, contraction of the conjunctival vessels, dilatation of the pupils and often partial loss of accommodation.

COCAIN AND CENTRAL NERVOUS SYSTEM

The physiological action of cocain on the central nervous system is extremely important in the consideration of this subject. Early signs of poisoning are those of cerebral stimulation, the stimulation rapidly spreading downward through the medulla and cord. This is followed in the severe cases of poisoning by a descending depression beginning with the cerebrum, extending downward to the lower divisions, and finally paralyzing the respiratory center in the medulla. Cushney states that "the two stages are not definitely divided, however, one part of the cerebrum often showing distinct depression while another is still in the condition of excessive activity. In some cases, especially in man, the stage of excitement may be very short or apparently absent and the whole course of the symptoms then points to medullary depression."

DISCUSSION OF TOXICITY

This brings us to the discussion of the toxic symptoms and fatalities of local anaesthesia. Again cocain is taken as the typical local anaesthetic, its substitutes giving similar general signs and symptoms of poisoning. Quoting Cushney, "The symptoms of cocain poisoning in man vary

a good deal in different individuals. In most cases small quantities produce some excitement, pleasurable or disagreeable. The patient is generally restless and more garrulous than in ordinary life, often somewhat anxious and confused. But very often a small dose is followed by a calm, languorous state, somewhat resembling that induced by small quantities of morphine, but differing from it in there being less tendency to sleep. The pulse is accelerated, the respiration is quick and deep and the pupils generally dilated. Headache and dryness of the throat are often complained of. The reflexes may be found somewhat more easily excited than usual and tremors or slight convulsive movements often occur. Later, powerful tonic or clonic convulsions supervene, the heart becomes extremely accelerated, the breathing becomes rapid and dyspnoeic and may be finally arrested during a convulsion. In other cases the convulsive seizures are almost entirely absent, fainting and collapse being prominent. The skin is usually cyanotic and cold in these instances, the heart slow and weak, the respiration is very much depressed and death follows from its gradual cessation. Vomiting is occasionally seen at an early stage, but is by no means common."

An unprejudiced analysis of the fatalities of local anaesthesia requires us to recognize the following facts: First, that all surgical procedures, no matter how trivial, are dangerous and should not be entered into without careful deliberation of the patient's fitness to stand the psychical and physical shock. Second, that there are individuals who die suddenly from shock or fright, some of whom have no gross or demonstrable pathological changes. And lastly, that local anaesthesia has been greatly abused and very carelessly administered in many instances of death. Of course, a few cases of sudden death have been reported following the injection or application of a few drops of known strength anaesthesia. Cause of death in these apparently normal individuals is problematical, although numerous theories have been offered to explain it. Advocates of these theories suggest that the solution has been injected too rapidly, that the drug has been spilled into the throat and swallowed, that the needle has been pushed into a vein or in throat work into one of the large branches of the carotid. None of these explanations have been proven and the exact cause remains as much of a mystery as ever. Many feel that certain

people have an idiosyncrasy to the particular drug that is being used. Yet several of the cases reported in literature are patients in whom much larger quantities of the same drug had been used with impunity on previous occasions. There is on record a case where the patient suddenly died following a sterile saline hypodermic injection subcutaneously.

CAUSE OF DEATH SOUGHT

An extensive review of the literature reveals the enormous amount of experimental work that has been done in an attempt to find the cause of death in local anaesthesia. Extensive laboratory experiments have been carried on with animals in order to determine the fixed maximum dose of cocain and its substitutes. The results have been rather discouraging, however, as man often reacts to these drugs quite differently from animals. The fixed maximum dose of cocain is without practical value, for by the observance of certain precautionary measures, much larger doses of cocain can be introduced into the body without apparent effect. These precautionary measures consist primarily in preventing too rapid absorption of the drug so that the smallest maximum doses enter the blood stream at one time. Yet Eggleston and Hatcher, reporting experiments on cats in 1919, stated that although alypin, beta-eucain, apothetin, nirvanin, procain, and stovain are destroyed at the rate of at least one fatal dose every twenty minutes; holocain is apparently destroyed a little less rapidly, one fatal dose requiring about a half hour. Cocain was shown to be destroyed at the rate of one fatal dose every hour, if as rapidly as that, and the rate of its destruction apparently decreased progressively. They also brought out the difference between "essential" elimination and immediate elimination of a drug. "Essential" elimination, they said, means elimination of a poison from those organs upon which its essential or toxic actions are exerted; to distinguish it from that elimination which takes place immediately after the drug enters the blood stream. In most of cocain's substitutes, with the exception of holocain, the "essential" elimination is virtually the same as the immediate elimination and is practically identical with total elimination. With cocain repeated doses leads to an increasing amount of the drug present acting upon essential organs and a cumulative effect results. This explains why, in animals at least, the recovery from a sublethal dose

is more rapid with some of cocain's substitutes than with cocain itself. If an idiosyncrasy does not exist and the irregular action of cocain can be ascribed to the peculiarities of the drug itself, it cannot be denied that the nervous system reacts differently to nerve poisons in different individuals, and likewise in its reactions to cocain. With the presence of such an indefinite susceptibility it is impossible to establish any definite dose for cocain as an anaesthetic.

Cushney gives the dose of cocain hydrochloride, injected, as $1/6$ to $1/2$ grain. Eggleston and Hatcher, in their 1919 article, demonstrated that in cats five times the fatal intravenous injection of the substitutes was survived when injected subcutaneously. About three and one-half times the fatal intravenous dose of cocain could be tolerated in this manner.

As explained by Dr. Patrick Watson Williams of England, however, in animals cocain has a relatively low danger ratio and they are more likely to afford warning by manifestation of syncope or dyspnoea while one is still far from a fatal dose. With butyn and several of the other substitutes they tend to give less timely warning because it is only when the dose more closely approaches the lethal dose that toxic symptoms appear.

COCAIN MINIMUM LETHAL DOSE

The minimum lethal dose of cocain has been estimated to be 1.2 grains, but because of difficulty in comparing animals to man and the varying sensitivity of individuals, this is necessarily inaccurate.

As stated before, the most reliable records of fatalities are those discussed by E. L. Mayer, chairman of the committee for the study of toxic effects of local anaesthetics of the American Medical Association. Writing in 1920, he concluded that local anaesthesia was the choice over general for nose and throat work and that the greatest danger lay in too rapid injection or entering a vein. He stated that synthetic products might be injected slowly in unlimited quantities, for the drugs, as a rule, are rapidly eliminated by the liver. He urged a careful investigation of the patient's general condition with especial reference to cardiac disease, exophthalmic goitre, nephritis or disturbance of glands of internal secretion. The recumbent position during operation, to relieve the strain on the heart, was very strongly urged by him at the time and reiterated in his later

reports. During the discussion of this subject Professor Rudolph Matas of New Orleans, an authority on local anaesthesia, suggested that procain was the ideal anaesthetic for many cases, using epinephrin to reduce the toxicity of the anaesthetic. He stated that since the use of epinephrin he had not observed toxic effects from cocain and had used it freely in solutions of 0.5 per cent to 1 per cent. And added that the thirty deaths reported in Paris in 1883 from cocain poisoning had in all but seven instances been due to excessive amounts of the drug. Dr. Allen, also of New Orleans, mentioned that he had not seen a case of idiosyncrasy to cocain in his private practice and had used it for twenty years.

Mayer in this report listed twenty fatalities, details of which he had collected. Two of these were in nose operations, while eighteen occurred in surgical procedures in the throat. Fourteen were cocain deaths, five of them due to mistakes in solutions, and six were procain deaths.

In 1921 Mayer again reported a group of cases in which local anaesthesia had been fatal. This group consisted of thirty-two previously unreported cases. Five of the deaths on investigation proved to be due to other factors, and in five instances the physicians who operated the patients refused to give details regarding them. Eleven were due to cocain, of which three were mistakes on the part of nurses, five cocain and procain, three procain, one apothecin and cocain, one apothecin, and one cocain and alypin. In the cocain deaths, seven were following the injections of a solution varying in strength from 0.2 per cent to 20 per cent. One nose operation was listed in which the nose was packed with 10 per cent cocain for thirty minutes with sudden death four minutes after reaching the operating room. A larynx operation for removal of a papilloma resulted in death one hour after spraying the throat with 10 per cent cocain. One cystoscopy where 8 c.c. of 4 per cent cocain solution had been used in the bladder, was followed by sudden death.

In the cocain-procain deaths: cocain mud, 10 per cent cocain solution or 20 per cent solution were painted on the mucosa of the throat preceding an injection of 10 c.c. of 0.5 per cent procain in one case, 12 c.c. of 1 per cent procain on each side in another, 1 per cent procain amount unknown in a third, 10 c.c. of .5 per cent procain in the fourth, and 10 c.c. of 0.5 per cent procain on each side in the fifth.

QUANTITATIVELY SYNERGISTIC

Hatcher and Eggleston's conclusion that local anaesthetics are quantitatively synergistic should be emphasized at this point. For example, they proved that in animals, at least, if 50 per cent of the fatal dose of two drugs be injected at once the 100 per cent fatal dose of one of them is the result. As far as I could determine the exact percentage of a drug that is absorbed by mucous membrane application, has not been proven, and because of this, application of a strong local anaesthetic to mucous membrane followed by injection must be considered dangerous. A 70 per cent fatal dose of cocain, for example, may be absorbed from mucous membrane application and the subsequent injection of a 50 per cent fatal dose of cocain or its substitutes would be very apt to produce sudden death.

Mayer's report in 1923 included 42 deaths from the use of local anaesthesia.

Cocain, 18; Stovocain, 1; Alynin, 1; Procain Novocain, 3; Novocain cocain, 10; Apothesisin, 4; Butyn, 4; Butyn cocain, 1.

His conclusions explain that the large number of deaths reported from cocain in this series is relatively small owing to the frequency of cocain anaesthesia and the indiscriminate use of highly concentrated solutions.

Forty-three deaths were listed in his 1924 report, 26 from cocain alone, or from cocain and procain, 4 from apothesisin, 1 alynin, 4 butyn, 2 procain, 1 stovain, and 1 butyn and cocain. Fifteen deaths were during operations in which the patient was lying down, 21 while the patient was in the sitting position, and details regarding the others were not available. Among his recommendations he stated that cocain should not be injected into the submucous tissue or subcutaneously, and that cocain paste ("mud") should not be used as a preoperative measure. Its use in that way was unreservedly condemned. Yet Oberst (Pernice) since 1889 has used .5 to 1 per cent cocain without incident. Reclus (Auber, Tillon, Delbose, Legrad) reports 7,000 cases in which .5 to 1 per cent solutions of cocain were used without a fatality. Dr. Watson Williams reports the use of cocain since 1886 with only three cases of alarming faintness, no casualties. Dr. Canfield has used cocain .5 per cent for injection purposes, during 25 years of the practice of otolaryngology without a death. Dr. Lillie of Mayo Clinic, in a letter dated January 28, 1928, writes: "We have used 1/5 of 1 per cent cocain hydrochloride solution in 35,000 patients with one fatality."

This patient had C.N.S. lues. At the University of Michigan hospital, where most of the work is done by young men being trained to otolaryngology, a .5 per cent solution of cocain hydrochloride plus adrenalin has been used in approximately 14,000 local tonsillectomies with two casualties. The first of these was a woman, 20 years old, who was referred to the clinic from medicine where a diagnosis of double mitral disease had been made. She stated she had suffered an attack of inflammatory rheumatism seven years before and several mild attacks since. Examination showed small septic tonsils, deeply buried, the crypts filled with pus. The patient was brought to the operating room complaining of no symptoms whatever. Her color was good, and she talked freely about the operation and did not seem to show any signs of fright or apprehension. The right tonsil was injected with about a dram of 1/2 per cent cocain hydrochloride solution in one to ten thousand adrenalin chloride. The right tonsil was then slowly and carefully enucleated and all hemorrhage checked. The patient stated she felt fine at this time. The left tonsil was then injected, using a dram and a half of the same solution. The tonsil was nearly enucleated when the patient turned deathly pale and fell forward as if in a faint. The skin was covered with a cold, clammy perspiration. She suddenly became cyanotic and stiffened up against the back of the chair; straightened out her legs and back; took a few short gasps and fell forward, eyes wide open and pupils widely dilated. In spite of two hours of emergency treatment she did not breathe again. In an attempt to revive her the tongue was drawn forward, artificial respiration performed, the patient given strychnine 1/30 grain and ether subcutaneously, lung motor applied, 1/150 atropine administered directly into the heart; intravenous strophanthin, saline infusion under both breasts and stimulating enemata, but to no avail. Autopsy revealed congenital syphilis, diffuse interstitial myocarditis, aortitis, pancreatitis and hepatitis, aortic insufficiency, relative insufficiency of the mitral valve, cardiac dilatation, active miliary tuberculosis in the bronchial nodes and degeneration of the liver.

The second case, a medical student 25 years old, also died several minutes after injection of the left tonsil. His respirations ceased little more than a minute after convulsions started. Autopsy reported,

acute myocardial failure with terminal right sided cardiac dilatation, thymico-lymphatic constitution with hyperplastic thymus and generalized lymphoid hyperplasia.

Both of these deaths occurred some minutes after the second tonsil was injected, the first having been injected and immediately enucleated. Obviously death in these cases was not due to intravenous injection as the symptoms were delayed and intravenous injection of a fatal dose of local anaesthesia produces immediate toxic effects.

Cocain paste (mud) has been used as a block anaesthesia in over 6,000 nasal operations in this clinic without a fatality. It is not painted over the mucous membrane of the nose, however, but only applied at two points on each side, which may have considerable bearing on its safety.

SUBSTITUTES FOR COCAIN

Consideration of the substitutes for cocaine is an unsatisfactory task because of their large number and because of the biased opinion of most of the literature concerning them. So much has been written by men who have chosen one of them as their ideal local anaesthetic and praised it unstintingly, then had a few fatalities and changed to some other solution without airing their disillusionment. For, as Mayer concludes in his 1924 report, "accidents occur with more recent synergistic anaesthetics as well as with older agents—symptomatology similar in all." Indeed, I feel that we can concur with Dr. Canfield in the statement that, "The anaesthesia produced is directly proportional to the toxicity." In other words, if we use an anaesthetic of low toxicity, a relatively larger amount of the drug is necessary to produce satisfactory paralysis of the sensory fibers, raising the toxicity to that of a stronger solution used in the proper amounts.

The ideal local anaesthetic as described by Braun should have the following attributes:

1. A drug which must produce a diffusible, complete and lasting anaesthesia.
2. One in which the following systemic absorption should be less toxic than cocaine in proportion to its anaesthetic power.
3. One that will not produce irritation and painful infiltration or cause local tissue damage, but should be absorbed without secondary effects such as hyperemia, inflammation, exudation, or necrosis.

4. A drug soluble in water and whose solutions are stable.

5. A preparation which must be readily sterilizable by heat, preferably boiling in solution.

6. Unless more powerfully anaesthetic and at the same time less toxic than any known substances, the drug should be compatible in solution with adrenalin.

Meeker, writing in the *Journal of Laboratory and Clinical Medicine*, feels that novocain, the common trade name for procain, fits all of these requirements. It is said to be the least irritant of all the local anaesthetics in use. Large amounts of it are being used daily, in general surgery with few fatalities. Various observers give its toxicity as $1/3$ to $1/5$ that of cocaine. Meeker states that sodium or potassium bicarbonate added to novocain makes it almost equal to cocaine in mucous membrane anaesthesia, but to my knowledge, this solution has not been used clinically.

Butyn in a 1 per cent solution is as powerful as 2 per cent cocaine. It is more efficient for surface anaesthesia than any of cocaine's substitutes, but not as efficient as cocaine itself. Injected, it is said to produce occasional severe local tissue changes. It is more toxic than cocaine and has the added disadvantage of not possessing ischaemic properties and of being irritant to mucous membranes. Large quantities of adrenalin are necessary to overcome these shortcomings and this in itself is dangerous. Eight deaths from its use are listed in Mayer's reports, two after application of 5 per cent solution to the nose.

Apothesin, using $1/2$ to 2 per cent solution, is a popular anaesthetic, since chlore-tone has been omitted, and is widely used in surgery with excellent results, according to many. It has largely replaced stovain and procain for spinal anaesthesia, operating with the head and shoulders elevated. Hamilton states that it is $1/5$ as toxic as cocaine hydrochloride and is equal to it for nerve blocking and terminal anaesthesia. Numerous cases of sloughing and gangrene and several fatalities have been reported from its use.

Quinine Urea Hydrochloride has been extensively used, but has produced considerable local tissue disturbance and pain during injection. The anaesthesia produced is a prolonged one, however, and is used in rectal work with a preliminary injection of some other local anaesthetic. Cases of sudden, total and complete deafness, following its administration in nose and

throat work, have kept many operators from utilizing it.

Space will not permit even a short discussion of the other solutions, but most of them have been abandoned due to toxicity, irritation or poor anaesthesia.

TREATMENT OF POISON

A great deal has been written regarding the treatment of poisoning due to cocain and its substitutes, yet recovery after a convulsive dose of a local anaesthetic is rare. Weiss in 1923 concluded that the formerly advocated calcium salts did not act as antidotes for the toxic effects of cocain, and their use as a therapeutic measure was not warranted, although Ca Cl does have a stimulating effect on the respiratory center. Alpha lobelin is used in some clinics as a respiratory stimulant, but its action is not dependable or uniform. Strychnine is contraindicated as it increases the convulsions, and morphine, as it further depresses the respiratory center.

Mayer feels that morphine, scopolamine and atropine, except in very small doses, tend to depress the respiratory center and produce inhibition of the heart due to direct stimulation of the cardio-inhibitory mechanism. Atropine is known to do this in animals. Atropine does not reduce the toxicity of cocain with epinephrin, as claimed by some. Nitroglycerine administered to cats permits the injection of a lethal dose of cocain without fatal results, but its action in man under these conditions is questionable.

Mayer emphasized the synergistic action of general anaesthesia and local anaesthesia and quotes Eggleston and Hatcher, who found that cats anaesthetized with hydrated chloral succumb to doses of procain that are harmless to normal animals. He advises ether or chloroform only for the convulsive stage and then sparingly.

DANGER OF TOO MUCH ADRENALIN

Meeker emphasizes the danger of using too much adrenalin in local anaesthesia, stating that cocain and adrenalin injected into the submucosa act strongly synergistically and that adrenalin in large amounts markedly increases the toxicity of cocain. Submucous injections of cocain and adrenalin are capable of causing enormous increases in arterial and venous pressure. He also states that sufficient cocain is absorbed from sponging the pharynx with a 20 per cent solution to increase the sensitiveness of the system to the action

of adrenalin. One of Mayer's reports contains the statement that "epinephrin in very small amounts does not increase the toxicity of procain injected subcutaneously or around a nerve, but epinephrin is probably a contributing factor in many cases of death." This action is independent of thyroid dyscrasia as shown by Kessel, Lieb and Hyman, who state that "sensitiveness to epinephrin has nothing to do with thyroid function and may occur in complete absence of the thyroid gland."

Previous to 1925 the only satisfactory procedures in cocain poisoning, according to Mayer, was to place the patient in a recumbent position, use artificial respiration and cardiac massage with possibly an intracardiac injection of not more than 2 c.c. of 1-10,000 epinephrin. He also said that possibly intracardiac digitalis would be beneficial, but stated that the dosage of the drug used in this manner was problematical. The artificial respiration and cardiac massage are to keep the patient alive until the liver has eliminated the drug, but the procedure has rarely been successful with humans.

In April, 1925, Tatum, Atkinson and Collins published the results of using sodium barbital and paraldehyde in cocain poisoning of dogs. They found that the intravenous injection of 100 mg. of barbital sodium, per K gm. of body weight, with 5 c.c. of saturated solution of paraldehyde in saline, per Kgm. body weight, would raise the lethal subcutaneous dosage of cocain in dogs 400 per cent. However, if convulsions were allowed to occur, the dosage from which they recovered was considerably lower. This preparation was suggested by them for clinical use. They concluded that atropine, chloral hydrate, ether and morphine, separately or variously combined, were not satisfactory antidotes, even actually increasing the danger.

Since this discovery, several operators have published reports of the use of these drugs. Gultman advises using 1½ grains of phenobarbital one half hour before operation and mentions cases where mild symptoms of cocain poisoning were present and immediately relieved by administration of a 1½ gr. phenobarbital tablet. The same patients experienced none of these symptoms at later operations, when this drug was administered before the anaesthetic.

Leshure states that since using sodium barbital, 6-12 gr. by mouth, one-half hour before operation, he has noticed no symptoms of cocain poisoning.

At our own clinic we have observed that using sodium barbital the patients have less tendency towards the faintness that occasionally follows the administration of morphine preoperatively.

SUMMARY

In summarizing this discussion, we must consider the advice of a few who suggest discontinuing the use of local anaesthesia because of its tragic fatalities. We feel that the use of local anaesthesia is justifiable comparing its relative safeness to the frequent complications of nose and throat operations under general anaesthesia. It is our belief, backed by the statements of reliable observers, that cocain properly used is as satisfactory and safe a local anaesthetic for nose and throat operations as any of its substitutes in use at this time. For tonsillectomies we use 7 to 8 c.c. of a 0.5 per cent cocain hydrochloride solution with 5 minims of epinephrin hydrochloride to the ounce. This totals about .6 grains of cocain hydrochloride, although less than that amount is frequently sufficient. Using a short, large bore, bent needle, the solution is carefully injected submucously at three or four points around the capsule of the tonsil; watching carefully to see exactly where the solution is going. Great care is exercised to be sure that none of the solution is spilled into the throat and that the injection is only superficial and not out into the tissues of the neck. The tonsil is then immediately enucleated as the anaesthesia is instantaneous. In this way much of the solution escapes into the throat and is expectorated with the accompanying blood. Hemorrhage is carefully checked and the other tonsil injected and enucleated in a similar manner.

The solution is put up in hermetically sealed 10 c.c. glass ampules plainly labeled with the name and strength of the drug.

As stated before, cocain paste (mud), unreservedly condemned by E. L. Mayer and his committee in 1924, has been used in some 6,000 cases in our clinic without a fatality, but only about 10 gr. of cocain powder are used in each case.

CONCLUSIONS

1. Statistics regarding fatalities due to local anaesthesia are unreliable, with the exception of those by conscientious investigators such as E. L. Mayer.

2. Many fatalities are due to careless use of cocain and its substitutes.

3. There are individuals who suddenly die from shock or fright before an anaesthetic has been administered.

4. Man's reactions to drugs are frequently different from those of laboratory animals, some individuals seeming to have a susceptibility to certain of the local anaesthetics.

5. As Mayer has stated, "accidents occur with more recent synergistic anaesthetics as well as with older agents, symptomatology similar in all."

6. The exact cause of death in these cases is not known.

7. Administration of sodium or phenobarbital before operation seems to do away with many of the symptoms, such as faintness and nausea, that followed a preoperative injection of morphine. According to some observers it prevents signs and symptoms of cocain poisoning.

8. Choice between cocain and its chief prototype, novocain, or any of its substitutes, depends on an accurate knowledge of the toxic, destructive and anaesthetic properties of the drugs in question.

9. Cocain has been indiscriminately used and unjustly condemned in many instances. Applied or injected carefully and intelligently, it has been justified by the experience of an imposing list of authorities in local anaesthesia.

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"MEDICAL LEGISLATION IN NEW YORK"*

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BRENTWOOD, LONG ISLAND

It is a distinction for New York State to be asked by another state to talk of its Medical Practice Act and the results of it in operation. It is a pleasure to bring to you the greetings of the officers of our State Medical Society.

New York has a long background of medical legislative history; and it is of value to consider it. Medical legislation, like other things, has often advanced because of what has happened in the past. The records for the last one hundred and twenty-five years frequently show that this has been forgotten. The work of the New York State Society illustrates some historical forgetfulness, and some successes due to keeping in mind that which has gone before. Perhaps some of you recall that Dana recently said, "we get a further view ahead by standing on the shoulders of those who have already done pathway work."

Medical legislative history in New York commences in New Amsterdam on the Island of Manhattan in 1652—two hundred and seventy-six years ago—in an order to regulate the practice of medicine so that quacks and charlatans should not have too prominent a place in the community.

In 1665—two hundred and sixty-three years ago—a still more serious effort to regulate the practice of surgeons, midwives, and physicians was established and the law said—let me read the quotation: "no one employed about the bodies of men, women or children for the preservation of life or health should presume to put forth any act contrary to the approved rule of art; or exercise any force or violence toward the body without the advice and consent of such as are skillful in the same art—if such may be had—or at least the consent of the wisest and gravest who were present together with the consent of the patient;" and it was further stated that "the purpose of the law was to direct and encourage those having skill in the right use thereof and to restrain those having presumptuous arrogance." This and other laws on Manhattan Island overshadow the efforts of recent years and remind us that organized medicine has for long past tried to do something for the proper regulation

of the practice of medicine and for community protection.

Then there came a colonial law in 1760 by which the physicians of the province of New York endeavored to secure for its citizens through legislative measures, the results of advancement in medical knowledge and protection against quackery and malpractice. This act was the first one in this country that compelled everyone who wanted to practice medicine to be examined and admitted by law and there was a penalty for violation. The province of New York, though not at that time the most populous, had priority in establishing an efficient medical practice act, though Dr. Beck points out in his Presidential Address of 1842 that more than a century before this act (in fact in 1649) the Colony of Massachusetts "attempted the regulation of medicine and the correction of its medical abuses."

There were some other medical laws immediately before the Revolution and several immediately after the establishment of the state government but none of them had anything to do with regulating the practice of medicine until 1792 when a time of at least two years of study was required in New York City. Then there was another enactment covering the whole state of New York in 1797, that one must have practiced for two years or have studied for two years with a reputable physician before he could be licensed by the court; and the act of 1792 was repealed. All of these laws had to do with better educational requirements for physicians and community protection from disease, just as modern medical practice laws have been characterized by these things.

After several years of discussion and the overcoming of both lay and professional opposition, the physicians of New York State were successful in 1806 in having enacted a law creating county medical societies and empowering delegates from them to organize a State Medical Society. The county societies were given the power of granting or refusing license to practice medicine upon examination. Various amendments have been established since that time terminating in the great Medical Practice Act of 1926. The laws of 1806 were revised in 1813 and 1828. Often (and at times every year) efforts were made to lower the requirements for licensing physicians—relatively not unlike the efforts of medical legislative history in the first twenty years of the present century.

Since 1760 in New York Province and

* Talk at the Secretaries' Conference of the Medical County Society of the State of Michigan at Detroit, May 14, 1928.

then in the State, the ground upon which all medical legislation to regulate the practice of medicine was based, was the medical protection of the people, and yet the profession did not escape any more than they do today the charge of self-interest by many laymen, and those trying to be licensed as the result of limited study and knowledge of the human body. Nearly every year up to 1843 some remodeling of the law was attempted and a large number of people made urgent demands for alteration or repeal of the law exactly as they did in New York State for twenty-five years terminating in 1926.

In 1842 the Thompsonian physician without examination sought admission to practice medicine in the same legal way as those entering the profession by law. They were backed up by the public which perhaps was in revolt because of the heroic methods and dosage common at that time. Anyway the medical profession did not take the public into confidence, or try to gain support at that time as finally discovered that it had to do, and did do in New York in 1926.

It does not appear to have ever been the intention of the legislature to recognize any particular mode or system of medical practice; and the arguments by the medical profession in 1842 against the admission of the Thompsonian physicians, were used against the cults from 1916 to 1926, with the difference that in 1926 the lay support was generous. The mass of the people who had worked hard supporting the Thompsonian effort, succeeded in 1844 in enacting a law which allowed any inhabitant of the state to practice medicine without license from the Regents, or a County Medical Society, or a degree in medicine, but when he was permitted to practice without being licensed, he could not charge for his services nor collect by suits-in-law. (The Thompsonian physician, some of you may not know, was one who used only infusions or teas made from roots or bark of plants grown in the United States). Curiously the medical profession to quite an extent supported this legal effort. In 1840-1842 several county medical societies in New York concluded that all prohibitory enactments were inexpedient and that the medical society of the state and the medical profession in general were abundantly able to take care of themselves without legislative support; and that in asking for laws from time to time, it was to protect the public and not to gain any advancement in the way of self inter-

est. Many medical men thought that if all restrictions were taken off "so that not having the agitation and the sympathies of the public to feed it," this cult would go down.

This was a time of great excitement, agitation, and revolution in medical laws, which continued to about 1850; in some ways like the efforts of the chiropractors to be admitted from 1916 to 1926, though probably more intense. The laws of 1844 removed all restraints to practice, subjecting those practicing only to civil liabilities for malpractice, criminal prosecution for gross ignorance or immoral conduct; allowing them to collect by law for services; leaving all other statutory provisions untouched and rendering them, of course, ineffectual.

About this time there existed a very low standard of medical education throughout the country. Schools were founded where they were not needed. They were in a state of acute rivalry, competing for students by shortening the course of instruction and making graduation easier.

At the annual meeting of the New York State Society in 1844, Dr. N. S. Davis introduced the resolution which resulted in 1846 in the foundation of the American Medical Association; although the subject had been called up in 1839 by Dr. McCall of New York. The American Medical Association was founded for the primary purpose of raising the standard of medical education just as the organization of the New York State Society in 1806 was for the purpose of raising the professional standard among physicians. There was decided opposition to this proposal, and mostly from medical schools, with perhaps more bitterness and personalities than has ever happened over any other question within the profession.

The low standards maintained for the purpose of attracting students and the jealousies of teachers in medical schools show how low all sense of professional dignity had fallen. Quoting from the report the committee of the American Medical Association on medical education in 1852, "the conclusions regarding medical laws were simply to give protection to those measures which are calculated to secure to the community a well educated body of physicians. The medical profession should be a single body of men without any prescribed set of opinions." This fairly characterizes the medical practice act of 1926 in New York.

It is interesting to note that there was a

penalty for illegal practice in New York from 1683 to 1835, when all penalties were repealed, leaving only the provision that an illegal practitioner of medicine could not recover his debts for service by suits-at-law and later this was repealed.

In 1842 leading sections of the state concluded that the only remedy for the deplorable state of the practice of medicine was in medical reform, "by which a higher standard of medical education shall be secured." There were many medical schools in these times who licensed men whom they knew to be unworthy. In 1830, eighteen out of twenty-six states had no law regulating the practice of medicine nor laws prohibiting quackery. It was thought that the repeal of laws against quacks robbed the quack of his strong hold on the sympathies of the public. Up to 1830, eight states never had any law regulating the practice of medicine and ten states had abolished all laws pertaining to medical practice. Only four states had existing laws as far as known. In this survey replies were not received from four states which may have had them: Arkansas, Illinois, Michigan and Delaware.

The Thompsonian school had a State Society somewhere near 1850. The State Homeopathic Society was incorporated in 1862 and the Eclectic Medical Society in 1865.

There were no further medical laws enacted relating to the practice of medicine until 1872. Then a law was enacted relating to the examination by the State Board of Regents of candidates, for the degree of doctor of medicine and in 1874 another law made it a misdemeanor to practice medicine in New York unless authorized to do so by license from the Regents, or by diploma, but the trouble was to enforce it.

In 1880 a law came into effect that every practitioner had to register in the county clerk's office of the county in which he lived before October first of that year and pay a fee of twenty-five cents. This is known in New York States as the roll call of 1880 and there was not another for forty-six years or until 1926, and now there is one every year.

Can quackery be suppressed by law, or by enlightening the public of its dangers? Public medical opinion in 1844 thought the latter. In 1928 we think by law. Is the highest result to come from a combination?

The osteopaths were licensed in New York in 1907 under a minimum educational standard with restrictions as to the admin-

istration of drugs, giving narcotics or doing surgery, and the result has been to diminish the number so that today there are about three hundred in the State of New York. They have a state organization.

In 1890 the medical practice act of New York was amended so that all graduates in medicine from that time had to be licensed through examination by the State Board of Medical Examiners and those who had been in practice were licensed by registration of their diplomas.

Medical legislative effort in New York was chiefly defensive up to 1916. At that time an attempt was made to amend the medical practice act. It took ten years of work to do it. For years the state was unsuccessful in prosecuting unlicensed practitioners and one of the reasons was because the state had no proper definition of what constituted the practice of medicine. Each year some changes were made in the form of the proposed amendment by both the Department of Education and the State Medical Society in turn until the law was finally enacted in 1926.

Physicians have been largely alone in opposing the exploitation of the public by quacks and charlatans. Only in recent years have we endeavored to enlist lay support. For years our legislative activities have been almost confined to the opposition of bills of the cults—to the extent of ten or fifteen each year; and it was only in the year 1925 that the profession took steps to offer constructive legislation and adopted means to develop lay support as an aid in enacting its constructive proposals for amending the medical practice act.

In 1925 the House of Delegates of the New York State Society, by resolution, appointed a committee of seven eminent physicians selected from different parts of the state, and after four months of study of the need for change, improvement, and amendment in the then existing act, formulated the Medical Practice Act of 1926. After this it was put in legal shape by the Counsel of the Society, then, after approval by the Counsel, was submitted to the Attorney General, the Board of Regents, the State Department of Health, and the State Department of Education for suggestions. Lastly it was submitted to a meeting of the legislative chairmen of the county societies of the state, and in its final form came as near representing the opinion of the profession as any medical measure has ever done. In the legislature and at the hearing before the Governor, it was vigorously op-

posed by the organized chiropractors and drugless healers on the ground that it represented the medical trust and they appealed to the public on this ground, also that it would make their practice difficult, which was true—though the bill does not mention any cults. Much thought was given the bill in its final form in adapting it to the law, the constitution, and the established customs and methods of administration.

The Medical Practice Act of 1926 is the best practical measure that could be drawn and passed in our state. Its outstanding features are a clear definition of the practice of medicine, annual registration, a minimum educational requirement, prosecution of violators by the Attorney General's office instead of by the district attorney of the county, limiting the title "doctor" to licensed physicians, and a grievance committee.

Let us consider the grievance committee for a moment. It is made up of ten members—four from the State Medical Society, two from the State Homeopathic Society, one from the State Osteopathic Society, and three members at large of conspicuous professional standing, all appointed by the State Board of Regents. The grievance committee is similar in principle to that of the bar association. It has jurisdiction to hear and determine all charges against a physician who has been guilty of fraud or deceit in the practice of medicine; or who has been convicted of a crime or misdemeanor; or who is an habitual alcoholic or drug addict; or who has become insane; or who has been guilty of untrue or fraudulent advertising that he can cure or treat disease by a secret method; or who undertakes in any way to perform criminal abortion. The bill provides a definite method for the operation of the grievance committee.

For many years in New York State College following 1806 it was the custom of the Medical Society of the state to meet with the Governor and spend an evening with him at his mansion in order to discuss important medical legislative matters that were pending for that year. The present Governor essentially revived the custom. He was of great help in enacting the 1926 law because of his interest in public health and the illegal practice of medicine. He called a conference of the leaders of the medical profession and the official and voluntary health agencies in 1922-23-24-25 and 26 for the purpose of discussing the advisability of amending the medical prac-

tice act so as to establish a better basis for preventing cults which by this time had grown numerous—(variously estimated at upward of two thousand to five thousand)—from becoming entrenched by law—the result of constant yearly effort by the cults to have themselves licensed by the state.

The Governor further helped to create favorable public sentiment in his annual messages of 1925 and 1926. Let me read a paragraph: "Careful consideration should be given to the protection of the people of the state from unlicensed and unqualified persons practicing medicine. The co-operation of the medical profession is an essential factor in the protection of the public health as well as in the care of the sick. A very large part of modern public health is urging people to see their physicians before serious and incurable conditions have developed. Such effort comes to naught if unqualified persons are allowed to hold themselves out as physicians." This splendid statement to the legislature was of great value in the enactment of this law later in the year of 1926.

We have in our state a legislative bureau controlled by the legislative committee of the State Society. We have had since 1924 a full time medical executive officer devoting about half of his time to medical legislative matters and the other half to assisting the president, secretary, and chairman of standing committees.

Prior to 1924 the Medical Society made its contact with the legislature through the committee on legislation. Rarely did physicians appear in support of bills because the Medical Society itself, was not introducing much legislation at that time. It was chiefly on the defensive and with more or less justification for there were some bills to the disadvantage of the physicians. Most prominent among them were the efforts to secure some form of health insurance.

Since 1924 when the Society employed an executive officer, it has differently interested itself in legislative matters. The executive officer early in the session makes the acquaintance of the chairmen of the various committees, particularly the committee on public health in both houses. Through his work the county societies, by means of their committees on legislation, are informed of everything that transpires in the legislature. He endeavors to convince the members of the legislature that he represents the Medical Society of the State, that its interests are constructive and that its principal concern, in advo-

eating, or opposing bills, is the public good. He has directed opposition to bills introduced by cults, to their selfish character, to the fact that they are not an effort to improve the public good, but rather to secure legally the selfish interest of the organizations or individuals from whom the bills have sprung. Representatives of the Department of Education and the Department of Health and the State Society meet for the discussion of bills in which there is a common interest.

One of the baffling conditions prior to the appointment of the executive officer of the State Society was to find the several departments advising the legislators differently. Not a few times this difference in advice brought about defeat of measures that were worth while. The harmony of conference has been of great value and was of signal usefulness in passing the Medical Practice Act of 1926. Today the legislator looks upon the Medical Society of the State of New York as interested in the protection of the public as either the Department of Health, or the Department of Education, and we have reason to believe that he takes our interest to be as unselfish as their interests. In the past two years the important change in our legislative program is the linking up more closely with voluntary agencies whose object is the promotion of the public good. These bodies represent from five to ten per cent of the public and in activity much more than that. In the future, I believe that it will be the policy to try to enlist as representatives of the public, and staunch allies of ours in legislative work, the efforts of such organizations as the State Charities Aid Association, Parent-Teachers' Association, State Committee on Tuberculosis and Public Health, Federation of Women's Clubs, Chambers of Commerce, and the foundations interested in promoting public health activities in the state.

The choosing of legislative committee chairmen by the county societies is of great importance with regard to their personal interest and willingness and ability to give time enough to keep their own legislators informed—through their family physicians if possible—and to make an effort to get them to see that medical men are working for the public good and not for self interest; that they are trying to give the public better physicians and improve public health practice. We have in New York one special state meeting at the capital each year of the county legislative committee chairmen, the legislative com-

mittee of the State Society, the Council, and the State Society officers. A luncheon is served, railroad fares and necessary hotel bills are paid and we have a good attendance. We have been fortunate in having a governor in New York in sympathy with the advancement of public health and always willing to confer with the medical profession. Prominent physicians have always been willing to work in an advisory way with the legislative committee. This lays the foundation for the work that we have done in New York. Each year the legislature has become more friendly, due probably to taking them into confidence, telling them what we are trying to do and getting their medical constituents to tell them the same thing at home; in other words to get the public to ask for medical protection.

The campaign for the enactment of our medical practice act was greatly helped by co-operation with lay agencies as done in the past few years in other places, notably in California, Washington, and Oregon. The American Association for Medical Progress, the County Tuberculosis and Public Health committees of the State Charities Aid Association, and other welfare and civic organizations all became interested and actively supported the proposed medical act. The great strength behind this bill was the lay organizations and the fact that it was sponsored by two great state departments, represented by the Commissioner of Health, and the Commissioner of Education. Therefore, the essential factor in the passage of the Medical Practice Act was the demand for its enactment by laymen. The work of the doctors formulated the law. The great power in passing it came from laymen. During the efforts to pass the bill in 1926 legislators often expressed surprise and gratification in the interest in the bill taken by laymen. This was the first year that their constituents had told them of the popular support of the bill and that it was desired by the medical profession and the thinking public equally.

We have apparently learned some things from history. The failures in the neighborhood of 1830 to 1845 appear to be largely because the public were not with the medical profession. The success of 1926 was largely because the public worked with the medical profession. There was need one hundred and fifty years ago to regulate medical practice and to protect the public from quacks and charlatans just as there is today. We are inclined to think

that we are doing entirely new things. The fact is that we are inheritors of past accomplishments and that our present and future responsibility is the adapting, expanding and advancing of these accomplishments to our present day requirements.

The history of all professions shows that "none become highly useful and not even respectable except under restraint of its own members." If it were not that the fitness and qualification of those who may be entrusted with the cure or prevention of disease is to be determined by those trained in these subjects, then there would be little protection against the tendency of so many to accept the mysterious at the hand of ignorant pretenders. If it takes five years of training to develop a safe practitioner of medicine, then those who are willing to accept the cultist with five months of training cannot have real service any more than under similar circumstances in other fields of human endeavor.

To show you how much lay interest was aroused over the Medical Practice Act in New York in 1926, let me quote from one of many editorials in the public press: "No illegal physician can use the term 'doctor'." When the bill came to a vote it passed the Senate 35 to 12 and the Assembly 95 to 33.

The results of the Medical Practice Act were, almost at once, to drive a good many illegal practitioners from the state. It is believed by the secretary of the New York State Board of Medical Examiners that the number is about one thousand. He says that during 1927 one hundred and three cases were arrested, thirty convicted with fifty-eight cases pending, and seven hundred and twenty-eight cases were investigated. Apparently there will be as many or more this year. They have been widely distributed among chiropractors, naturopaths, physicians without license, foreign physicians who cannot obtain license, faith healers, druggists, laymen, herb doctors, naprapaths, bone setters, and licensed practitioners in the lesser fields of optometry and chiropody.

At the present time one hundred and twenty-five physiotherapists have been licensed under the law. There is a definite need of this type of technical assistant. The law does not give them permission to give medicine or treat disease except under the direction of a licensed physician. New York University is starting a four-year course in physiotherapy in association with the Hospital of Ruptured and Crippled.

Many complaints have come from adjoining states and Canada—ten large cities in the United States, four in Canada, and three in South America relative to the sudden increase in the number of quacks in their territory. Apparently this wholesale exodus from New York State is the result of its Medical Practice Act. Other states and countries have suffered. The only remedy is for other states to enact a similar or equal law.

Illegal practitioners naturally seek other places where the laws are less stringent. So far as solving a country wide problem it is not enough for only New York to enact a medical practice law. All other states must do it also if the problem is to be solved.

The illegal use of the title "Doctor" or "Dr." has been almost entirely discontinued in the metropolitan area of New York.

During the last century some new cult of greater or less prominence has come into existence about every ten years and we could look forward probably to about the same occurrence in the future. The new medical practice act with its clear definition of what constitutes the practice of medicine, furnishing an accurate list each year of licensed practitioners, and having an educational requirement as a physician in the knowledge of the human body and its diseases without prescribing any system of therapeutics or forbidding the use of anything that a licensed doctor deems of value, should be efficient for a long, long time.

An obvious task of the medical profession is to watch out that the force of the medical practice act is never weakened by modifying or repealing any of its features.

It is certain that attempts will be made in the future as unsuccessful ones were made in 1927.

In our ten years of experience in trying to get a medical practice act we learned certain lessons which I have referred to but they can be summarized in a few words:

1. It was team work that did it. It was not due to the influence of any single person. The influence of each one engaged in it was like a brick in a wall—necessary but no more so than any other one. So long as those in power could look upon the medical profession as physicians, they were listened to but there was no interest as soon as they became politicians.

2. No medical body can accomplish the passing of a medical practice act alone. It is absolutely necessary to have lay sup-

port both organized and individual to the largest possible extent.

3. Such laws must come about as a process of evolution. They cannot be enacted at once. It took New York several years to discover why it failed and to plan and accomplish its final success.

The essential features of "how it was done" are under these three heads—all else in detail.

Before closing I want to comment upon the Grievance Committee in action. The Grievance Committee is a judicial court of reference and not a prosecuting body. Its functions are to discipline licensed physicians who have violated the medical practice act and to dispose of complaints against licensed physicians based upon inadequate causes of action. It may also arbitrate between physicians or a physician and another. Charges against a physician must be drawn by an attorney or better by the State Attorney General's office. Then the charges are qualified by the Board of Regents, then referred to the Grievance Committee. The Attorney General's office is then asked for an opinion and if the case has merit, it is put in the hands of the Attorney General and each side appears by counsel. The case is the Board of Regents against the accused practitioner and not the Medical Society against the accused practitioner. The Grievance Committee really renders an opinion for the use of the Board of Regents. The results are splendid. Any case resulting in correction, when the inevitable local publicity appears, corrects dozens of others. It only takes a few scattered cases to spread all over the state. Even quasi cases where no convictions are expected, have a deterrent effect because of the necessary investigation by the court of judicial reference. The Grievance Committee divides the state into three districts for its convenience—three men sitting in each. The findings are submitted to the full committee. When decisions are reached, they are filed with the State Board of Regents.

We have a permanent administrative organization for the sole purpose of enforcing the act; differing in this respect from the medical practice act of any other state.

Perhaps it is of interest to note that in 1927 there were registered seventeen thousand four hundred and thirty physicians, three hundred and thirty-one osteopaths, and one hundred and twenty physiotherapists. The secretary of the New York State Board of Medical Examiners says that he thinks that this represents ninety-five per

cent of all those practicing medicine in 1927.

The functioning of the Medical Practice Law of New York State is working out well. It is being very carefully administered with the idea in view that it is universally applicable to the whole United States. When this is proven beyond doubt it should fill a large place in future medical practice act planning in any other state.

Through all these laws for nearly three hundred years to regulate the practice of medicine and correct its abuses, there run four things—an educational requirement; protection of the public against unqualified men, protection of the community in all medical matters, and professional dignity. These fundamental traits are plain in the first medical practice law and in the last one. These laws have all originated with physicians. Each one came into existence when there was need to correct medical abuses and I have no doubt that the physicians of each state as its needs arise, will meet the problems. New York has apparently settled its medical practice problems for a generation or two to come. There are other problems confronting us such as social medicine but that is another story.

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MICHIGAN'S DEPARTMENT OF HEALTH

GUY L. KIEFER, M. D., *Commissioner*

HEALTH WORK IN SIXTY MICHIGAN INDUSTRIES

Michigan, with her varied and extensive industries, is a most attractive and challenging field for the study of the protection of the health and safety of industrial workers.

Medical supervision has had rapid development during the last decade. Industrial physicians and their departments have come to be recognized as important factors in the attainment of industrial efficiency and social well being. The National Industrial Conference Board, aware of the significance of industrial health work, for several years has been engaged in a study of the problems peculiar to that work.

The Michigan Department of Health is likewise interested in finding out how most adequately to handle some of its own health problems in its various industries. For this purpose it has undertaken a general survey and summary of the types of organization, the methods employed, and the accomplishments of industrial medical work now being done in the state.

As a guide or standard for consideration of merits of any features of medical service in industry, it is well to get clearly in mind the primary functions of the physician in such service, and why it is necessary and advisable to bring his knowledge and service into the plant organization.

THE INDUSTRIAL PHYSICIAN

The Conference Board of Physicians in Industry, at a meeting of the conference in 1922, outlined the following definition of the medical man who devotes his time or part of his time to industry:

"The physician in industry is one who applies the principles of modern medicine and surgery to the industrial worker, sick or well, supplementing the remedial agencies of medicine by the sound application of hygiene, sanitation and accident prevention; and who, in addition, has an adequate and co-operative appreciation of the social, economic and administrative problems and responsibilities of industry in its relation to society."

In an article on "Preventive Medicine in

Industry," in the Journal of the American Public Health Association for October, 1924, Dr. Guy L. Kiefer comments as follows on this subject:

"Accepting this definition as describing the work of the physician in industry, it is evident that preventive medicine has a place there. Industrial medicine is developing, just as preventive medicine has developed, to the point where its chief work and the chief duty of its physicians is educational. It is observed that as preventive medicine and industrial medicine develop they draw more closely together. There seems to be no better place to work out the latest phase of preventive medicine than in a well organized industry. Here is a group that can, if the employer so will, be controlled sufficiently so as to be taught how to keep well. It can be kept under observation to such an extent that the results obtained can be easily tabulated. It is to be borne in mind, however, that the labor turnover, which exists to some extent in every industry, will interfere with the preventive program."

Following Dr. Kiefer's recommendation that to accomplish the best results there should be some well defined functions of the health department of an industry, certain objectives were outlined and presented to several establishments as primary activities in which they might engage. It is understood that their relative importance varies in different types of industries and under different conditions. In several of the larger industries with fully developed health departments, there has been considerable expansion of these suggested activities.

FUNCTIONS OF AN INDUSTRIAL HEALTH SERVICE

The following nine objectives are recommended as comprising the chief functions of a fully developed health department in industry:

1. Physical examination of all applicants for positions in the industry, and of workers returning to work after illness.
2. Periodic re-examination of all employees; more frequent attention to those who have physical defects needing follow-up.
3. The examination of any and all em-

ployes who may be indisposed, for the purpose of diagnosis and advice.

4. Examination, upon request, of all employes who may be under care of an outside physician, for purposes of co-operation and consultation.

5. The surgical care, as far as possible, of all company accident cases.

6. General health education by means of literature, posters, bulletins, lectures, etc.

7. General supervision of plant sanitation, including such matters as ventilation, heating, food inspection, etc.

8. Investigation, by nurses, of all sick cases, and general nursing care and advice, as far as possible, of all such cases.

9. Instruction in Mouth Hygiene and Care of the Teeth.

Examination of all applicants upon admission is for classification and as a matter of record; the procedure proves to be of great benefit both to employe and employer.

It is recommended that facilities of industrial medical departments be placed at the service of attending physicians whenever they desire it; X-ray and other laboratory examinations should be made at their request, for employes of the particular industry, and results placed at their disposal.

This survey covered 60 industries ranging in number of employes from 150 to over 30,000. The number of employes totaled 223,290 of whom 17,497 were women. No particular preference was shown in choosing industries to be visited except as they were considered representative of the various types from which could be learned the full scope of measures and methods employed in the care of injured and ill employes, not including accident prevention devices.

The nine proposed objectives were discussed, information was secured on the nature and extent of health work being conducted, and reactions were noted as to the relative value of various health measures and as to the desirability of attempts at standardization.

The survey was intended to cover items on staff, equipment, physical examinations, relations with family physician, safety measures, welfare program, cost of health service, and benefits derived. The following tabulated items were gathered from 45 establishments where at least four of the nine objectives were being promoted; the other 15 have no health service or it is of

such limited nature that no data can be used in comparison.

ITEMIZED REPORT

There are 40 full time physicians employed in 18 establishments, and 26 part time physicians in 17 establishments. Twenty-eight companies have arrangements with physicians "on call."

A total of 116 trained nurses are employed in the industries visited. Nine establishments report that their nurses do visiting work, while five state that they depend upon the local visiting nurse associations or the Metropolitan Life Insurance Company for such service.

Thirty-four first aid workers are employed in 14 establishments. Most of these are in plants where there is little or no medical or nursing service. In a few plants classes are conducted, usually for foremen, in special types of first aid work.

EQUIPMENT

Waiting rooms for patients are maintained in 28 plants, doctors' offices in 15, special examining rooms in 17, separate dressing rooms in 20, special rest rooms for patients in 8, and first aid rooms, only, in 9. Seven establishments have X-ray rooms, 7 have physiotherapy rooms, 3 have dental rooms and equipment, 5 have optical rooms, and 12 have laboratories. Ten plants have emergency hospitals, while 17 report arrangements with city hospitals.

Ten plants have dispensaries open day and night, 15 have such service during the day, and 6 have them open only during working hours.

Records of medical cases are kept by 38 plants, and surgical records by 43 plants.

PHYSICAL EXAMINATIONS

Twenty-two firms examine every applicant entering their employ, 19 examine all employes complaining of illness, and 6 examine those returning to work after illness.

Periodic examinations for all employes are conducted in 4 plants, while 8 report giving special re-examinations ranging in time from 6 months to 5 years.

Thirty-two health services stated that they stressed cooperating with the family physician, often helping to make it possible for the physician or a specialist to give the service needed.

COST OF PROMOTING HEALTH SERVICE

Varying estimates were made when this item was discussed in the plants. Less

than half of the questionnaires returned contained any data on this. Figures reported range from \$4.40 to \$15 per employe per year. Taking the total number of employes in firms reporting and their reported costs, the average is found to be \$6.58 per employe. This item needs more attention before figures can be sent out as a true statement of the cost of health work in Michigan industries. Every firm reported the investment well worth while.

BENEFITS DERIVED

Nineteen firms reported less time lost, 22 stated that there was a decrease in labor turnover, and 8 commented on general benefits. As to employes, 12 firms reported marked improvement in efficiency, 8 reported increased income, and 15 stated that there was marked effect on the general morale of the workers.

All of the industries surveyed gave the representative of the Michigan Department of Health a most cordial reception. The officials offered helpful recommendations, were glad to receive suggestions, and in almost every case manifested a desire to extend the medical service.

F. A. P.

PROBLEMS OF ETHICS IN THE LABORATORY

It is our intention at all times in the laboratory of the Michigan Department of Health to give as near complete service as is consistent with good laboratory practice. Many times we are called upon to do things that yield little or no information that is useful as an aid to the diagnosis of the disease. Questions dealing with technical procedures we have no difficulty in handling. The most troublesome problems we have to solve in giving laboratory service are those that arise out of medical ethics. Our results are the property of the physician sending in the specimen. Following are instances that came up in one day's business.

A physician from Duluth has a patient that was formerly treated by a Michigan physician. He writes asking for the data as to previous laboratory findings while the patient was being treated by the Michigan doctor. Our files were searched and it was found that the man had had a positive Kahn test, and ninety days later a negative Kahn test; presumably the man was treated between the two examinations. He was now appearing for a physical examination and further treatment in the office of the Minnesota physician. In due

time permission was granted by the Michigan physician and the original results were sent to the Duluth doctor.

A patient from a local doctor called at the laboratory, stating that her physician had told her that the laboratory had made a diagnosis on her blood specimen of encephalitis lethargica. In the meantime she had changed physicians, and had gone to the hospital of the University of Michigan where they had questioned the diagnosis and asked for a copy of the laboratory report. As no such laboratory finding is possible, we met the situation by telling the patient that we felt certain that she had misunderstood her doctor and that the results would be looked up and mailed to her first physician on whom she could call and get straightened out as to exactly what he had said when he had given her the report some weeks previous. A letter was written to the local physician telling him of this conversation, sending him a copy of the former result and telling him that we had informed his former patient that she had misunderstood him, thus giving him an opportunity to correct an impression that the laboratory was making impossible diagnoses and to straighten out his own position in the matter.

There is a state law which requires that all children for adoption must have a record of being free from serological evidences of syphilis. The Michigan Childrens Aid Society had a child in the southern part of the state whom they wished to place for adoption. The foster parents informed the agent of the Michigan Childrens Aid Society that a blood specimen had been examined on this child and had been sent in by a physician in their community. The social worker from the society called on this doctor and for his own reasons, he refused to give the results. They, therefore, wrote us. As the results we had on file were the property of the physician and could not be given out after having been denied, we informed the Society that if they wished to take the child to another physician we would report on the new specimen.

An irate tax-payer, a woman, appeared at the laboratory and demanded to see the results of the blood test made by a physician in a near-by town. The physician had made a diagnosis of syphilis. Our records revealed the fact that the patient had a negative Kahn test. The diagnosis was undoubtedly made on clinical findings, and in all probability it was a case of neurosyphilis. The report was denied on the

grounds that it was a privileged medical communication.

Another instance of similar nature came in from northern Michigan in which a diagnosis of tuberculosis had been made, and the repeated specimens examined in this laboratory were negative, a common enough occurrence. The law which states that venereal disease records are not public records does not apply to other laboratory findings so again we had to resort to the scheme of sending the results to the physician, stating that the patient had called at the laboratory and demanded the reports. We told the patient that we would send the reports to the physician as the patient told us that the physician had told him he had lost the reports.

The most frequent requests that we have come from a physician who is called upon to render service to a patient who has changed doctors and the patient informs the doctor that results were formerly obtained from the laboratory and the doctor writes to the laboratory for these results. We are always willing to make additional examinations for any physicians under these circumstances, but cannot transfer one physician's results to another without the permission of the one who sent in the specimens. We take this position because we believe fully that laboratory findings should be used only as an aid to diagnosis and that a positive or negative finding does not in any way overthrow competent clinical findings.

A DIPHTHERIA STUDY

A study of the incidence of diphtheria in the various sections of the state has just been completed by the Bureau of Epidemiology.

During 1926 an intensive campaign was conducted by the State Department of Health to immunize as many as possible of the school children of 14 counties. The counties selected were those especially interested in having the work done.

Toxin-antitoxin was administered by the local physicians in Lapeer, Barry, Wexford and Oceana Counties. In Ionia, Washenaw, Cass, Presque Isle, Ogemaw, Montcalm, Baraga, Alger, Kent and Genesee Counties representatives of the State Department of Health gave the treatments.

Reports for the year 1927 gave the first indication of results from this intensive campaign. The diphtheria death rate for all counties of the state except the fourteen mentioned was 11.7 per 100,000 population. This is lower than the rate for 1926

and probably reflects the increasing use of toxin-antitoxin by physicians in their private practice.

In the 14 counties where general immunization was carried on, the diphtheria death rate was 5.9 per 100,000 population.

This study would seem to indicate that immunization of the school population against diphtheria will reduce the diphtheria death rate one-half. In the four counties where local physicians administered the toxin-antitoxin only six deaths from diphtheria occurred throughout the entire year, and none of them were among school children who had been given toxin-antitoxin. A similar condition prevailed in the ten counties visited by department representatives.

Grand Rapids had only two deaths from diphtheria during 1927, with a population of 150,000. The remainder of Kent County with a population of about 50,000, only three deaths occurred. This is undoubtedly one of the best diphtheria records ever maintained by any Michigan city or county.

DR. KAHN TO LEAVE DEPARTMENT

Dr. R. L. Kahn, Assistant Director in charge of Immunology in the Bureau of Laboratories of the Michigan Department of Health, has recently received appointment to the University of Michigan faculty as Director of the University Hospital Laboratory and Assistant Professor of Clinical Bacteriology and Serology in the Medical School. His resignation from the Bureau of Laboratories will take effect August first.

Dr. Kahn has had charge of serum diagnosis of syphilis in the state laboratories since joining the staff in February, 1920. He will be retained by the Michigan Department of Health as consultant serologist. Researches in progress will be continued by Dr. Kahn and Dr. Lubin.

Dr. Grace Lubin, Ph. D. (Johns Hopkins) will have charge of the serological work of the laboratories when Dr. Kahn leaves for Ann Arbor.

WEXFORD TO HAVE COUNTY HEALTH UNIT

At a meeting of the Board of Supervisors of Wexford County on April 12 plans were made and a budget adopted for a county health department. The Wexford County Medical Society sponsored the program, and the unit as planned will be a combined department functioning in both city and county.

The personnel will consist of a health

officer, three public health nurses, and an office assistant. Quarters have been arranged for in the Court House.

It is hoped to have the department organized and at work by the time schools open in September.

The Ionia-Montcalm Medical Society at their meeting on April 12 received the report of their committee appointed to discuss county health units, and voted to ask the State Department of Health to present the matter to the Board of Supervisors at their next meeting.

PREVALENCE OF DISEASE

	April Report		April 1927	Av. 5 Yrs.
	March 1928	March 1928		
Pneumonia	1,039	1,068	663	805
Tuberculosis	436	517	554	587
Typhoid Fever	19	23	29	36
Diphtheria	282	230	409	399
Whooping Cough	663	581	536	659
Scarlet Fever	1,143	1,080	1,078	1,371
Measles	5,839	6,212	1,027	2,931
Smallpox	154	132	120	89
Meningitis	16	22	13	14
Poliomyelitis	2	1	0	2
Syphilis	1,448	1,121	1,449	1,285
Gonorrhea	735	558	729	788
Chancroid	6	6	15	14

CONDENSED MONTHLY REPORT

Lansing Laboratory, Michigan Department of Health

April, 1928

	+	-	+ -	Total
Throat Swabs for Diphtheria				917
Diagnosis	28	241		
Release	26	164		
Carrier	12	434		
Virulence	5	7		
Throat Swabs for Hemolytic				589
Streptococci				
Diagnosis	59	92		
Carrier	23	415		
Throat Swabs for Vincent's	34	235		269
Syphilis				7813
Kahn	1124	6635	50	
Wassermann	1	2		
Darkfield		1		
Examination for Gonococci	123	1499		1622
B. Tuberculosis				509
Sputum	75	377		
Animal Inoculations	5	52		
Typhoid				108
Feces	8	41		
Urine		7		
Blood Cultures	1	21		
Widals	3	27		
B. Abortus	3	43		46
Dysentery				33
Intestinal Parasites				18
Transudates and Exudates				180
Blood Examinations (not classified)				207
Urine Examinations (not classified)				357
Water and Sewage Examinations				458
Milk Examinations				85
Toxicological Examinations				7
Autogenous Vaccines				179
Supplementary Examinations				552
Unclassified Examinations				13949
Total for the Month				133550
Cumulative Total (fiscal year)				
Increase over this month last Year				820
Outfits Mailed Out				16045
Media Manufactured, c.c.				340814
Antitoxin Distributed, units				19626000

Toxin Antitoxin Distributed, c.c.	27930
Typhoid Vaccine Distributed, c.c.	750
Silver Nitrate Ampules Distributed	5436
Examinations Made by the Houghton Laboratory	2249
Examinations Made by Western Michigan Division Laboratory, Grand Rapids	6646

OXYGEN-CARRIER OF THE BLOOD

An important step toward the understanding of how the process of breathing sustains life has been made by Prof. Otto Warburg who, in an address before the Kaiser Wilhelm Association for the Advancement of Science at Berlin, demonstrated the constitution and action of the ferment in the blood which controls the conveyance of the oxygen of the air from the lungs to the muscles. So minute an amount of this ferment or catalyst is present in the blood that it cannot be isolated, yet it is an essential factor in the supply of vital energy to all animals. Its chief constituent is haemin, a chemical compound which has been known for the last seventy-five years, but which was first made artificially in the laboratory a few months ago by Prof. Hans Fischer. It contains iron and is a component of the familiar red coloring matter of the blood, haemoglobin.

But the ferment is ten thousand times more sensitive to light than haemoglobin. The color of the light makes more difference than its intensity. Rays of a certain frequency will be absorbed while light of another wave length, will not affect it. These iron-containing compounds of the blood are tuned to react to select radiations like a fine radio apparatus. One of the derivative compounds can act as a sensitizer to sunshine so that a person taking a dose of it would be light-struck, perhaps fatally, by ordinary daylight, while he would be all right so long as he remained in a dark room. Pigs are sometimes so sensitized by eating buckwheat as to be sickened by sunlight.

The "breath-ferment" described by Warburg is beneficially affected by light, for when it is poisoned by combination with carbon monoxide such as may come from automobile gases, the combination is readily broken up by faint light, and the ferment can then resume its function of carrying oxygen.—Science Service.

THE PHYSICIAN

There are men and classes of men who stand above the common herd, the soldier, the sailor, the shepherd not infrequently; the artist rarely; the physician almost as a rule. He is the flower of our civilization, and when the stage of man is done and only to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period and most nobly exhibited virtues of the race. Generosity he has, such as is possible to those that practice an art, never to those who drive a trade. Discretion, tested by a hundred secrets, tact tried in a thousand embarrassments and, what are more important, Herculean cheerfulness and courage.—Robert Louis Stevenson.

A gentleman was walking down the street with a little boy at his side, when the boy cried out: "Oh, pa! there goes an editor!"

"Hush, hush," said the father, "Don't make sport of the poor man, God only knows what you may come to yourself some day."

THE JOURNAL

OF THE

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JUNE, 1928

"I hold every man a debtor to his profession, from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves, by way of amends, to be a help and ornament thereunto."

—Francis Bacon.

EDITORIAL

IS THIS OUR PROBLEM?

Michigan is an industrial state and consequently has its special problems. Among these is the conservation of man power. In the large industrial centers men are apt to be cast aside at a comparatively early age. It has been stated time and again that it is difficult for a man past fifty years to obtain employment, particularly in the large automobile factories. Complaints are also made that the speed which is maintained in the name of efficiency produces nervous manifestations with consequent impairment of health. There is no doubt that in the industries in the large cities in particular, man is subject to more continuous nerve strain than at any time in the past. We have not only our immediate problem, but the influence of industrial life on the race is a larger though more remote one.

Modern industry, while it has greatly increased man power, has made work much less attractive. The time was when men took a certain pleasure out of their work. They were craftsmen and many of them

artists as may be seen in old buildings, old furniture and other articles of handicraft of former generations. The industrial age has done away with all this. Now everything is sacrificed to speed and efficiency. Art has been taken out of the workman's life. It is no longer "each for the joy of the working." The worker instead of obtaining satisfaction from his work, looks to the time when his day's work is over. Since a great deal of it requires little or no skill, he may be replaced easily at any time by anyone else. He is therefore living in an atmosphere of insecurity. It is estimated that there are from two to four million persons out of work in the United States, almost double the number who are continually out of work in England.

Much has been written about the iron man. It is high time that attention were paid to the human machine—much as we hate to use the term. Medical and sanitary science has effected the prolongation of life until the average age is approximately fifty-six years. Why prolong life if industry is to cast it aside long before the climacteric is reached?

Then to detract further from the morale of the worker we have the element of so-called scientific management with its tendency to depersonalize. Overorganizing of industry has a dehumanizing effect upon men. To feel that one is near the "zero of insignificance," to be a mere cog in a wheel, is in direct opposition to what might be considered a primal urge in man—the desire to persist as a personality. Human nature resists any condition that tends to degrade.

Political statesmanship we know, though sometimes there is far too little of it exercised. The state is in dire need of industrial statesmanship. Our mechanical devices are nearly perfect. Science has done her part but the art of controlling men in their own interests is in its infancy. In other words we have increased our power over nature without increasing the control of that power over thought and management. Industrial statesmanship must take into consideration industrial psychology. Among other things this will mean the elimination of the so-called "straw boss" who acts as a buffer between the foreman and the worker, and it should include better treatment of the latter.

As has been said, great attention has been paid to the mechanics of industry; greater attention must be paid to the human factor. In a large way this includes the well-being of the worker, the health of

his family and his peace of mind. Probably there is no class so able to lead in this matter as the medical profession. The members are to a large extent individualistic and independent. Their own future however, is affected largely by the conditions which prevail in industrial life.

BUSINESS MANAGEMENT OF COUNTY MEDICAL SOCIETIES

Some of the largest county medical societies of the United States have adopted the idea of business management secretaries who may or may not be medically trained persons. Both the Toledo Academy of Medicine and the Cleveland Medical Society have full-time business managers neither of whom is a physician. The idea is being discussed somewhat informally by members of the Wayne County Medical Society, more particularly by the officers who are in most immediate touch with the problems confronting the Society. In a Society such as Wayne County the duties of the president and secretary have become so onerous as to require more time than the average person in active practice can afford to devote to them. Sooner or later other societies of the state will find it to their advantage to consider the problem of some sort of business management, full time or other.

It is fitting that the County Society of large membership should be the first to adopt such a measure in as much as it is the primal unit of organized medicine. Membership in the County Society is the necessary condition of membership of the Michigan State Medical Society and of the American Medical Association. Besides, the majority of the problems of a medical society are local and can be best solved by local effort. The medical profession of large cities have grievances which become almost periodically recrudescant.

The success of a full-time managerial secretary will depend upon obtaining the right kind of a man to fill the position. It will require a man with influence and an extraordinary share of sound common sense.

The so-called social worker is busy and sometimes develops such a facility of speech as to give him influence in a community out of all proportion to the value of any services he is able to render and that influence is not likely to be in the interest of the medical profession. If a live business manager did no more than offset the effects of these busy bodies he would have earned his salary.

VACATION

The vacation season has arrived. Probably none is more in need of it than the doctor. A year of contact with physical ailments, or ministering to minds diseased, or plucking from bosoms rooted sorrows, results in a condition that is none too wholesome. We need a change. The opportunity to attend various medical conventions is in the right direction but it does not go far enough. A change of scene is necessary. The physician in the city should hie away to the country and the country confrere would do well to subject himself to a couple of weeks in the metropolis. He will at least appreciate his rural surroundings when he returns.

Men in any walk of life should be on their guard against becoming stale—intellectually sterile. When the lawyer becomes so he loses his cases and eventually his clients; when the doctor ceases to grow mentally, the condition becomes serious to his patients; when the clergy and editors become stale everybody knows it. June is the time to get back to nature, if one is not to lose the capacity to appreciate what nature has to offer. All work and no play is a trite but true saying, so,

"If your nose is close to the grindstone rough
And you hold it down there long enough,
In time you'll say there's no such thing
As brooks that babble and birds that sing,
These three will all your world compose:
Just you,—

The stone,—

And your darned old nose."

MEDICINE AND THE PRIVATE CITIZEN

Few stop to think how intimately medical science is associated with the people of a community. No one may maintain a nuisance on his property or any condition that is a menace to the health of his neighbor. If one's neighbor has a child ill with a contagious disease it is the immediate concern of those living near, as well as the remote concern of the municipality, that the house be placed under quarantine and that the patient receive proper treatment. In the apprehension of disease none but a properly qualified physician can do the work. Public opinion will not accept the diagnosis of a cultist. In the event of a severe epidemic, reliance is placed upon the medical profession to rid the community of the scourge.

The great war is too near to require more than mention of the tremendous services rendered by the medical profession.

Here the cultist and the irregular healer had no place.

One of the cults made the claim during the influenza epidemic of 1918 that it had a smaller mortality than even the regular medical profession. The reason is obvious. People may consult the cultist or the charlatan in minor ailments but when one is the victim of real illness the doctor is the person who is consulted.

Furthermore the almost universal adoption of the idea of medical education by the state shows that the people collectively recognize the importance of trained men to care for the sick.

While the importance of scientific medicine is recognized almost universally, even by those who at times show a lack of confidence in medicine in favor of charlatanry, the achievements of the former require to be kept constantly before the public.

CULT PRIVILEGES

A correspondent writes asking whether a registered osteopath has the right to treat contagious diseases or to issue death certificates. The law of this state grants that right or privilege to osteopaths. The same correspondent also wonders what would happen if a regular M. D. were to practise osteopathy. Nothing would happen in as much as a member of the regular medical profession is limited only by his judgment and common sense in the use of therapeutic measures.

While on the subject another query is in regard to the right of chiropractors to use the X-ray in diagnosis of vertebral conditions, and likewise the use of the ultra-violet rays in treatment, according to the Michigan law. A chiropractor is not licensed as a chiropractor in the state of Michigan, therefore as such has no rights whatsoever. As a drugless healer, however, and licensed as such, he would have the right to employ any kind of therapeutic agent so long as that agent did not involve the use of drugs either externally or internally. Such is our interpretation of the law.

Drugless therapeutic agents such as the X-rays, radium, the various agents used in physiotherapy require as much skill and training to insure their proper use as drugs do, and in the hands of incompetents who have not a standard medical training, are capable of as much harm as drugs prescribed by incompetents.

It is said on very good authority that many chiropractors are not limiting them-

selves to drugless methods but are actually employing medicinal agents. This charge has been alleged by the proprietor of a very prominent school of chiropractic who ought to know. He claims that graduates of the institution are drifting from the original purpose of the school. Of course the various cults adhere for a time to the tenets of their schools then eventually endeavor to enter the legitimate field of medicine by the back door.

APPENDICITIS

It would seem that the last word on appendicitis had already been said. Probably no other subject has been so widely and so thoroughly investigated over the past four decades. It is almost universally admitted to be a surgical disease. Its incidence has been presumed to be greatest among young adults between twenty and thirty years of age, gradually becoming less frequent after the attainment of middle life. The reason at least in part is the almost universal attention to abdominal pain with operative treatment. The exuberance of youth is not conducive to care in the selection of diet and to meticulous attention to habits of living that age compels in the person who is approaching the grand climacteric. Fitch* has investigated with the object of ascertaining the frequency of the disease in persons past fifty. Basing his study upon 766 consecutive cases he found that appendicitis is as common in people over fifty years of age as it is in children under ten. The greatest number of cases, 40.8 per cent, occurred between the ages of twenty and thirty; between ages ten and twenty years was the next highest percentage, namely 21.4. About 5 per cent of cases of appendicitis were in patients over fifty and 5.5 per cent in patients under ten.

Fitch followed up his own investigation by sending a questionnaire to one hundred surgeons and hospitals in sections of country wide apart so that his statistics may be taken as representing a cross section of occurrence of appendicitis in persons over fifty years of age. The percentages range from 4.2 to 10 per cent; 90 per cent of the cases occurring under that age. While appendicitis has been found comparatively less frequent after the age of fifty the attacks are reported as of greater severity with more extensive pathological findings and more pronounced circulatory changes than in cases under that age. It follows

* "Appendicitis in People Over Fifty Years of Age," by Emery M. Fitch, M. D., *New England Journal of Medicine*, April 5th, 1928.

that the mortality after the half century mark is much greater.

ARE WE FINDING TUBERCULOSIS?

The medical director of a large sanatorium of the middle west has recently gone over the record of 7,000 patients who have been admitted to that sanatorium during the past 12 years. These patients, of all ages, from every walk of life, and of every race and creed, came to the sanatorium seeking recovery. Many came too late. Eighty-five per cent of the 7,000 cases were admitted in an advanced stage of tuberculosis.

These 7,000 records clearly tell that a majority of these patients knew that they were ill months before coming to the sanatorium. Many of the records show that there was a time when the patients felt tuberculous. They felt tired, they were nervous or irritable, or had indigestion. Tuberculosis was not even then suspected by the doctor, whose opinion was sought.

These 7,000 records tell of advancing disease to the stage when slight afternoon fever, loss of weight, and cough developed. At this time a thorough chest examination would have settled the diagnosis. But the warning went unheeded.

The disease advanced, and for months before entering the sanatorium these patients were coughing and expectorating in home and factory, scattering tubercle bacilli. Finally the diagnosis was made and sanatorium treatment arranged for. Eighty-five per cent came too late.

Since tuberculosis is very wide spread and since cases often extend over a period of two or three years, why should we not have in mind that the patient who comes to us for examination may be suffering from that disease?

E. R. Van der Slice.

EDITORIAL NOTES

"To cure sometimes, to alleviate often, to comfort always."—Anon.

"Lo, the winter is passed,
The summer is over and gone;
The flowers appear on the earth;
The time of singing of birds is come,
And the voices of spring are heard in the lands."

The big Post-Graduate Conference in Detroit is in progress as The Journal M. S. M. S. goes to the printer. Every effort is being made to print as many of the clinical addresses as can be obtained. These will appear in the July and August numbers.

Our Peers: The Magna Charta of time honored fame has decreed to the affect that no man shall be tried, fined or imprisoned except by the lawful judgment of his peers. A Pennsylvania judge has expressed as his opinion that juries of medical experts should sit on all murder trials in which the plea of insanity is made. If we were good at repartee or disposed to be "catty," what might we not say to this?

A Bad Taste in the Mouth: The Manchester Guardian is very much concerned over the action of the United States government in instituting an inquiry into the alleged conspiracy to control the price of quinine. Large, concealed supplies of the drug have been seized and confiscated. On reporting these facts to our own special catarrh expert, comments the Guardian, he replied with a contemptuous sneeze, "I dode see whad they're baking all the fuss about. They cad have all the quidide if they wad it—the dab stuff's no good ady-way!"

"I hav finally cum to the konklusion that a good reliable sett of bowels is wurth more tu a man than enny quantity of brains."—Josh Billings, quoted by Alvarez in his new book, The Mechanics of the Digestive Tract.

Dr. Lawrence Reynolds of Detroit has been appointed associate editor of the American Journal of Roentgenology. The appointment is a very happy one as no one is better qualified for the position than Dr. Reynolds. He is not only widely read in the vast literature on Roentgenology that has been produced during the past thirty-three years since the discovery of the X-rays, but has a rare command of the English language which admirably fits him for the editorial position. The American Roentgenological Association is to be congratulated on the appointment.

A resolution was passed recently by the Erie County (Buffalo) Medical Society, claiming among other things that the Buffalo City Hospital had pauperized the public until there was a horde of people expecting treatment and hospital care free,

establishing a custom that it would take years to overcome. This custom was condemned by the profession, the resolution declaring further that state or socialized medicine was in the last analysis beneficial to neither the public nor the medical profession. This problem in some form or other must be faced by the medical profession of every large city.

The adoption of a motto places this Journal among the ancients so to speak. The New York Evening Post started with the following declaration from the first number in 1801; "The design of this paper is to diffuse among the people correct information on all interesting subjects, to inculcate just principles in religion, morals and politics, and to cultivate a taste for sound literature." This paper was under the editorship of William Cullen Bryant, the poet, for about half a century. The staid North American Review with over a century to its credit, rings an impartial note in, "Tros Tyriusque mihi nullo discrimine agetur." The Toronto Globe holds before its readers the following slogan of freedom; "The subject who is loyal to the Chief Magistrate will neither advise nor submit to arbitrary measures."—Junius. It is not the purpose of the Journal of the M. S. M. S. to start any uplift movement or to indulge in hortatory homilies. The quaint Baconian sentence, however, requires no apology. It conveys a truth that is at times not so fully realized as it should be.

JUNE TWENTY-FIVE YEARS AGO

The Journal M. S. M. S. of 1903 contained papers on Impetigo by Dr. William F. Breakey, Ann Arbor; the Etiology of Pelvic Inflammatory Diseases by Dr. Richard R. Smith, Grand Rapids; The Conservative Treatment of Pelvic Inflammatory Diseases by Dr. R. E. Balch, Kalamazoo; Boiling as a Method of Sterilizing Catheters by Doctors C. B. Nancrede and W. H. Hutchings, Ann Arbor; and Mydriatics in Refraction of Presbyopia by Dr. O. A. Griffin, Ann Arbor. There are listed fifty-five county societies embracing seventy-one counties with a membership of 1700. Dr. William F. Breakey was president of the Michigan State Medical Society.

ONE HUNDRED AND SEVEN YEARS AGO

The semi-annual meeting of the medical society of the Territory of Michigan was held at the house of Henry O. Bronson, Detroit, Mich., June 12th. There were a number present. Dr. William Brown who presided at this meeting was the first president of the society. One of the earliest acts of the Michigan Medical Society was the appointment of an attorney whose duty would be to "prosecute all infractions of the statutes made, adopted and provided for regulating the practice of physic and surgery within this Territory." The

early meetings of the Michigan Territorial Medical Society were concerned more with the legal than the scientific aspects of medicine.

"EACH IN HIS OWN TONGUE"

When the sick man lies abed distraught with pain,
And dismal Death is clutching at his throat,
He likens me to GOD and all his house
Kneel down and do me reverence.

When easier lies his head and icy death
Removes his hand and warm the blood rebounds,
He blesses me as Messenger of God
And Holy ANGEL from ethereal high.

But when the full and rosy touch of life
Bestirs his flesh and puts his soul to sleep,
He greets me as a MAN, though one of might
And versed in all the wisdom of the world.

And then at last when recompense is asked,
He passeth me in dread, for lo, to him I stand
A DEVIL, horned from out the lowest depth.

—Anon. From the Dutch.

Very Ill—

Name, oh doctor, name your fee,
Ask—I'll pay whatever it be—
Skill like yours I know comes high,
Only do not let me die.
Get me out of this and I
Cash will ante instantly.

Convalescent—

Cut, oh doctor, cut that fee,
Cut, or not a cent from me.
I am not a millionaire,
But I'll do whatever's square,
Only make a bill that's fair.

Well—

Book, oh doctor, book your fee,
Charge, I'll pay futrely.
When the crops all by are laid,
When every other bill is paid.
Or when death again afraid,
I will pay it—probably?

—Anon.

Blow, blow thou winter wind,
Thou art not so unkind
As man's ingratitude;
Thy tooth is not so keen
Because thou art not seen
Although thy breath be rude.

Freeze, freeze thou bitter sky
That dost not bite so nigh
As benefits forgot;
Though thou the waters warp
Thy sting is not so sharp
As friend remembered not.

—Shakespeare, "As You Like It."

THE READER, THE CONTRIBUTOR, THE EDITOR

It is the duty of an editor: (1) to judge impartially in the selection of material for publication; (2) to consider the interest of the reader as paramount; (3) to maintain the high standard for medicine that it has had in the past; (4) to fight ignorance, quackery and fraud, not only by a campaign of silence but openly and continuously; (5) to refrain from personal laudation, and to publish

nothing that will aid the individual seeker of the limelight in his ambitions; (6) to be guided by good English style and diction but to avoid fancy writing and rhetorical bouquets; (7) to be first with the most important articles and scientific news; (8) to be interesting—above all, to be interesting.

It is the duty of a contributor: (1) to be brief; (2) to be as careful in literary publication as in surgical operation; (3) to publish only when you have something new to say or something old to say in a new way; (4) to contribute only to those publications in which the products of your brain will be associated permanently with commercial matter equally clean; (5) to provide an adequate summary and conclusions; (6) to select a title

that expresses the meaning of your article; (7) to make citations only to medical literature that has actually been consulted; (8) to eliminate carefully unnecessary charts, tables and illustrations; (9) to be as clean in writing and revising as in the hospital clinic; (10) to be interesting.

It is the duty of the reader: (1) to be interested; (2) to support sound publications by subscription; (3) to avoid derogatory criticism unless all of the facts are apparent; (4) to purchase approved products of merit advertised in sound publications; (5) to suggest improvement when the need is apparent.

—Morris Fishbein, M. D., On Medical Journalism in the United States.

NEWS AND ANNOUNCEMENTS

Thereby Forming Historical Records

Dr. L. J. Hirschman of Detroit delivered an illustrated address before the Medical Association of the State of Alabama on "The Surgical Management of Ano Rectal Fistulas."

Dr. Robert Beattie and Mrs. Beattie of Detroit, are making a voyage around the world. The doctor reports only one day of rough weather during the voyage.

Dr. S. E. Barnett of 25 Parsons street, Detroit, after spending five months of post-graduate study in eye, ear, nose and throat in Vienna, is leaving for the United States on the S. S. Republic May 23.

Dr. Victor C. Vaughan, former dean of the medical school of University of Michigan, has been awarded the Kober medal for general distinction in medical work at the closing session of the Association of American Physicians.

Dr. H. J. Carstens, speaker of the House of Delegates, M. S. M. S., has been reported last in France on his way to Paris. He is traveling in a somewhat unspectacular way, having taken his Hup roadster with him, with which he is touring the continent.

Dr. Robert S. Stone of Detroit, who has been associated for the past three years with Dr. Rollin Stevens, will leave shortly for California, where he has secured a position as professor of roentgenology in the medical department of the University of California.

The aim is to include in this department such news items which it is hoped will be of interest to the membership of the M. S. M. S. as a whole. It can be made a more interesting feature if the members will co-operate by sending similar items from their immediate environment.

At the last meeting of the Detroit Oto-Laryngological Society the following gentlemen were elected officers for the coming year. Dr. William Fowler, president; Dr. Alex R. McKinney, vice-president; Dr. Don A. Cohoe, secretary-treasurer; Doctors Ray Connor and I. Wendell, Council

members. These men are now planning for another big year's work. Some of the most noted Oto-Laryngologists of the country will be brought here this year.

The new unit of Harper Hospital, Detroit, Mich., was formally opened May 15th. It has been completed at a cost of \$2,500,000, which sum includes also alteration of the old building. The capacity of Harper is now 650 patients. Harper Hospital was founded in 1863 as a government unit for the care of soldiers wounded in the Civil War. The old Harper, in which many physicians of Michigan served their internship, faced on John R. street. The new Harper faces on Brush street. It is almost needless to say that the new hospital is almost the last word in hospital innovations and conveniences.

A new building, more than 600 feet long and six stories high, will be added to the Detroit laboratories of Parke, Davis & Co., according to an announcement recently made public. This structure, which will be devoted to manufacturing, will embody the latest improvements in factory construction and design. It will be of reinforced concrete throughout, with every provision made for the health and convenience of the employees. The exterior of the building will be faced with brick to correspond to that of the administration building which was completed last year. The new building will be constructed in three units and it is expected that the first unit will be ready for occupancy on January 1, 1929.

The race suicide outlook in the United States is not yet painfully apparent, judging by the latest statistical study of sterility reported to the National Academy of Sciences. From data furnished by the U. S. Bureau of the Census, Dr. A. J. Lotka of the Metropolitan Life Insurance company has computed that the percentage of childless marriages among white people in America is 17 per cent. About 4 per cent of these are accounted for by divorce and the death of one matrimonial partner or the other, leaving an actual sterility rate of 13 per cent. When it is taken into consideration that 78,207 out of every 100,000 white women eventually marry, in this country of some

100,000,000 population, the proportion of childless families is considered not sufficient to cause grave concern to alarmists worried over the future of the race.—Science Service.

The Forty-First Annual Meeting of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons will be held at Toronto, Ontario, September 10th, 11th and 12th, following the Canadian National Exposition. The program as already announced is as follows: "The Teaching of Operative Obstetrics," Dr. A. M. Mendenhall, Indianapolis; "The Causation, Prevention and Treatment of Post-Operative Distention of the Abdomen," Dr. Edgar A. Vander Veer, Albany; "Do the Results of Surgery Justify Its Employment in Thrombophlebitis?" Dr. John Osborn Polak, Brooklyn; "Some Factors Governing Blood Loss in the Third Stage of Labor," Dr. L. A. Calkins, Charlottesville; "Insufflation of the Tubes as a Test for Sterility," Dr. I. C. Rubin, New York City; "The Relation of Cell Volume and Plasma Fibrinogen to the Blood Sedimentation Rate," Dr. E. D. Plass, Iowa City; "Hyperthyroidism Complicating Pregnancy," Dr. F. H. Falls, Chicago; "Reactions of the Peritoneum," Dr. J. W. Kennedy, Philadelphia; "The Vaginal Approach for Certain Intraperitoneal Operations," Dr. W. Wayne Babcock, Philadelphia; "Chorea Associated with Pregnancy," Dr. Foster S. Kellogg, Boston; "Pyametra Following Irritation for Cervical Carcinoma," Dr. P. Brooke Bland, Philadelphia; "X-Ray and Radium in Pregnancy," Dr. Percy W. Toombs, Memphis; "Fibroids of the Uterus," Dr. F. A. Cleland, Toronto; "Cancer of the Cervix," Dr. William Healy, New York; "Hemorrhages of the Pubescent Period and Climacterium," Dr. Robert D. Mussey, Rochester, Minn; "The Relation of Metabolism to Gestation," Dr. Jennings C. Litzenberg, Minneapolis; "Disturbances in Carbohydrate Metabolism as a Partial Answer to the Whitridge Williams Questionnaire on Eclampsia," Dr. Paul Titus, Pittsburgh; "Problems Associated With the Cervix," Dr. R. R. Huggins, Pittsburgh; "The Liver and the Operation," Dr. G. K. Dickinson, Jersey City; "Importance of Complete Urological Investigations in all Obscure Cases," Dr. Charles W. Moots, Toledo; "Infection in the Puerperium with Analysis of 5,000 Cases," Dr. Fred L. Adair, Minneapolis; "Complete Lacerations of the Perineum," Dr. L. E. Phaneuf, Boston.

INGHAM POST-GRADUATE CONFERENCE

The Post-Graduate Conference of the Ingham County Medical Society was held Thursday, April 26, at the Hotel Olds, Lansing, Michigan. Dr. Karl Brucker, President of the Society, called the meeting to order at 10:30 a. m. The initial speaker was Dr. James T. Case, Professor of Roentgenology, Northwestern University Medical School. At 1:00 p. m. Dr. Miles F. Porter, Sr., Professor of Surgery, Indiana University School of Medicine, initiated the afternoon program. An informal dinner was given at 6:30 p. m. Short addresses were made by Dr. H. E. Randall, President of the Michigan State Medical Society; Dr. Guy Kiefer, State Health Commissioner, and Dr. Karl Brucker, President of the Ingham County Medical Society.

The evening meeting, open to the laity, was well attended by both physicians and laymen. At this time Dr. Walter C. Alvarez, of the Mayo Clinic, gave an excellent talk on "Cancer of the Digestive Tract."

The Program follows:

10:30 a. m.—"Upper Small Bowel Obstruction from the Diagnostic and Surgical Standpoint," Dr. James T. Case, Professor of Roentgenology, Northwestern University. Surgeon Battle Creek Sanitarium, Battle Creek, Michigan.

11:30 a. m.—"Carcinoma of the Stomach," Dr. Frederick A. Collier, Professor of Surgery, University of Michigan, Ann Arbor, Michigan.

1 p. m.—"Acute Abdominal Diseases," Dr. Miles F. Porter, Professor of Surgery, Indiana University School of Medicine, Fort Wayne, Indiana.

2 p. m.—"The Significance of a Good History in Gastro-Intestinal Disease," Dr. Walter C. Alvarez of Mayo Clinic.

3 p. m.—"Subacute Bacterial Endocarditis," Dr. John Phillips, Professor of Medicine, Western Reserve Medical School, Cleveland, Ohio.

4 p. m.—"Twenty-five Years Experience with Malignant Diseases About the Head and Neck," Dr. Joseph C. Beck, Professor of Oto-Laryngology, University of Illinois, College of Medicine, Chicago, Illinois.

5 p. m.—"The Importance and Use of Psychotherapy in General Practice," Dr. H. A. Reye, Professor of Neurology and Psychiatry, Detroit College of Medicine and Surgery, Detroit, Michigan.

8 p. m.—"What Every One Should Know about Cancer of the Digestive Tract." Lantern Slides. Dr. Walter C. Alvarez of Mayo Clinic.

The address given by Dr. Alvarez will appear in a near number of the Journal M. S. M. S.

OUT FISHIN'

A feller isn't thinkin' mean
Out fishin';
His thoughts are mostly good and clean
Out fishin'.
He does not knock his fellow-men,
Or harbor any grudges then;
A feller's at his finest when
Out fishin'.
A feller's glad to be a friend,
Out fishin'.
A helpin' hand he'll always lend
Out fishin'.
The brotherhood of rod and line
An' sky and stream is always fine;
Men come real close to God's design
Out fishin'.
A feller isn't plotting schemes,
Out fishin'.
He's only busy with his dreams
Out fishin'.
His livery is a coat of tan,
His creed—to do the best he can,
A feller's always mostly man,
Out fishin'.

—The Doctor.

DEATHS

Dr. W. A. Von Zellen of L'Anse died April 11th. Dr. Von Zellen was a native of Baraga County and was born in Skanee. After his graduation from the University of Michigan he started his practice in L'Anse and has since resided there. He has been a member of the Michigan State Medical Society since 1912. He is survived by his widow and one son.

COUNTY SOCIETY ACTIVITY

Revealing Achievements and Recording Service

EDITOR: Frederick C. Warnshuis, M. D.

Secretary Michigan State Medical Society

MINUTES OF THE EXECUTIVE COMMITTEE MEETING, HELD IN GRAND RAPIDS, MAY 21, 1928

Present: Chairman, R. C. Stone; J. D. Bruce, George L. LeFevre, Burton R. Corbus, and F. C. Warnshuis, Secretary.

1. The Secretary presented an editorial that appeared in a recent issue of the Illinois Medical Journal, together with his reply. The reply was carefully considered and the Secretary was instructed to sign and mail this to the editor of the Illinois Medical Journal, and also cause it to be incorporated in our State Journal.

2. The Secretary commented upon the financial condition of the Society, together with detailed report as to the investment fund and presented a letter of an accepted banking authority that voiced an opinion that approved the soundness of securities in which the funds were invested. This was approved by the Executive Committee.

3. The Secretary presented the necessity of increasing the facilities of the addressograph machine owned by the Society. On motion made and supported, the Secretary was authorized to spend the necessary funds to secure such increased facilities.

4. The Secretary reported on the four-day Post-Graduate Conference that was conducted in Detroit, and was also authorized to issue vouchers for the expenses incurred in conducting that Conference.

5. Dr. Bruce reported upon further plans and developments of Post-Graduate work in the state that was being supervised by the State Society and announced that within sixty days a definite program would be outlined and mailed to each individual member of the Society.

6. The Secretary was authorized to write to three individuals suggested and invite one to address the public meeting that is to be conducted in connection with the Annual Meeting of the Society that is to be held in Detroit in September.

7. The Secretary reported upon the available auditoriums in Detroit and was authorized to reserve Orchestra hall for

the public meeting that is to be held in connection with our Annual Meeting.

8. The Secretary reported upon plans prepared for providing a Scientific and Commercial exhibit in connection with the State Meeting. These plans were approved.

9. It was deemed desirable to have a special meeting of the Council some time during the month of July and upon motion duly made the Chairman of the Council and the Secretary were instructed to make the necessary arrangements for issuing call for such special meeting.

There being no further business, the meeting adjourned at 9:30 p. m.

F. C. Warnshuis, Secretary.

Honorary Membership—Please refer to the minutes of the Secretaries Conference wherein you will find the procedure to be observed in the election of honorary members.

Tri-County Meeting—Bay County was the host to the scheduled meeting of the Tri-County Meeting held in Bay City on May 20th. Dr. E. Starr Judd addressed the 150 doctors in attendance on the subject: "Some Aspects of Gall-Bladder Disease." He was introduced by President H. E. Randall.

A. M. A. Meeting—The annual session of the American Medical Association will be held in Minneapolis the week of June 11th. We urge attendance. The Twin Cities offer many inducements that will result in profit and pleasure to every attendant of the Annual Meeting. Reduced fares, certificate plan, and three railroads enables one to attend at a minimum expense of money and time.

Periodic Physical Examination—The Kent County Medical Society merits every commendation for sponsoring a week of Periodic Physical Examination in Grand Rapids. Excellent preliminary publicity for ten days was secured by a series of educational articles appearing in the daily papers, setting forth the value of a physi-

cal examination. The week was opened with a general public meeting and on Wednesday Dr. Miller of Chicago addressed the members of the Society on methods utilized in conducting an examination. The public was urged to obtain their examination from their family or private physician. For individuals unable to pay for their examination arrangements were made whereby the Out-Patient Departments of the three hospitals made this service available. Next month we purpose publishing the statistical results.

Jackson County Bulletin — Jackson County Medical Society is publishing a very creditable four-page Bulletin. The Bulletin contains the program for each meeting, minutes, news notes and comments. It evidences a very commendable Society activity and reflects great credit upon its editor, Dr. Philip Riley, the Society's Secretary.

Post-Graduate Conference, Manistee—The program printed last month was carried out at the 9th District Post-Graduate Conference held in Manistee on April 6th, with the following doctors in attendance:

J. C. Branch, White Cloud; J. J. Brownson, Kingsley; J. D. Buskirk, Shelby; A. M. Campbell and B. R. Corbus, Grand Rapids; Clinton Day, Hart; J. F. Doudna, Lake City; E. L. Eggleston, Battle Creek; Earl Fairbanks and S. Fairbanks, Luther; W. H. Force, Ludington; J. W. Gauntlett, Traverse City; C. L. Grant, Manistee; J. F. Gruber, Cadillac; J. W. Hansen, Manistee; A. R. Hayton, Shelby; Ivan L. Hunt, Scottville; George F. Inch and H. B. Kyselka, Traverse City; Lee A. Lewis, Manistee; G. H. Lynch, Big Rapids; D. A. Jamieson, Arcadia; H. MacMullen and A. A. McKay, Manistee; E. A. McManus, Mesick; G. D. Miller, Cadillac; E. B. Minor, Traverse City; S. C. Moore, Cadillac; L. P. Munger and J. H. Nicholson, Hart; Ellery A. Oakes, Homer A. Ramsdell and L. S. Ramsdell, Manistee; O. L. Ricker, Cadillac; Edwin Rinear, Traverse City; H. D. Robinson, Manistee; E. F. Sladek, Traverse City; S. Smiseth, Suttons Bay; C. F. Smith, Traverse City; W. Joe Smith, Cadillac; C. M. Spencer, Scottville; F. G. Swartz, Traverse City; W. H. Taylor, Ludington; O. G. Wood, Hart.

Signing Petitions—In the past doctors have attached their signatures to petitions without full knowledge as to just what

they were signing or petitioning. In so doing much embarrassment has resulted to the signer as well as to the profession. Many of these petitions are not as innocent as they appear to be. However, given a petition, a comely woman to circulate it, an un-thinking person, a blarney talk—and another name is appended to the "innocent petition."

About a year ago a certain party secured quite a few letters endorsing a movement against a certain cult. Our doctors fell, gave letters and also incidentally subscribed for a magazine. Many of you now wish you had your letters back and by the time the legislature convenes you will wish so still more. You fell quite easily.

Just now a petition or rather petitions, are being circulated quite freely, petitioning the next legislature to enact certain legislation apparently to the interest of every doctor—but is it? No, you are being used as dupes for a personal attack, a personal affair and supporting a private venture. *Don't sign that petition.*

Please remember you have a Legislative Commission that is strenuously and diligently at work in your interests. It has definite plans and procedures in view that will fully conserve your interests. It is alert to existing conditions as well as ulterior movements. It seeks to keep you free from embarrassing entanglements. Do not ignore its recommendations. Do not pursue independent courses uninformed. Don't sign petitions or give letters unless you are informed as to all the motives and facts. In due course your Legislative Commission will come to you for signatures, support and work. Do not permit yourself being placed in a compromising position. Be careful as to what you sign—ask the solicitor if he has the endorsement of your State Medical Society. Without that endorsement we urge you withhold your endorsement.

ILLINOIS SITS IN JUDGMENT

Esteeming the profession of our sister state, Illinois, its State Society and its official publication, we were quite disappointed over two editorials appearing in the May issue of the "Illinois Medical Journal." We were somewhat astounded, too, that the esteemed editor should fail to ascertain facts from dependable sources ere condoning the publication of statements and formulating opinions and conclusions that are not only unsubstantiated, but also unmerited. We impart herewith the editorials and the reply. Ere again assuming

to "sit in judgment" we urge the withholding of conclusions and castignations until all the facts are considered.

MICHIGAN DOCTORS ARE DISSATISFIED BY PRACTICE OF MEDICINE IN THEIR STATE BY THE UNIVERSITY OF MICHIGAN UNDER THE PAY CLINIC SYSTEM

Socialized medicine as exemplified by the workings of paid clinic practice through the State University system as it is followed in the state of Michigan, should be warning enough not to attempt any analogous duplication of such procedure in the state of Illinois as is the tendency through the present plans for paid clinics at the University of Chicago.

Doctors in Michigan are greatly dissatisfied at this octopus that has been thrust upon them by theorists. Attention has been brought to the Michigan situation and its tangency upon the present Illinois crisis through statements made by Dr. Franklin McLean, dean of the medical department of the University of Chicago. During a conference on Sunday, March 17, 1928, at the University of Chicago, participated in by a delegation of trustees of that institution and a committee from the Chicago Medical Society, Dr. McLean, in citing the virtues of the paid clinic idea and its forthcoming advantages for ideas in Michigan and its application through the paid clinic as a shining example of what would accrue to Illinois and to the medical profession in the way of practical and scientific benefit if the same system prevailed here. In his eulogy of the harmonious workings of the idea in Michigan and elsewhere, Dr. McLean said that the doctors in the state of Michigan approved the paid clinic, state university idea. As a matter of fact, the rank and file (exclusive of the payroll brigade) of the profession in Michigan is not only dissatisfied with the workings of the system, but in reality is bitterly against it.

Dr. McLean's statements before this meeting were so at variance insofar as Michigan is concerned at least, with the writer's experience in that state, dating back to the time when an attempt was made to inflict compulsory health insurance on the medical profession of the United States that it is impossible not to refute these assertions by a few citations of record. In 1920 a cry for help came to the doctors in Illinois from the doctors in Michigan. Assistance was asked from those who knew of the bogus character of "state medicine" under the guise of compulsory health insurance in an educational campaign that would show that the new

idea was a wolf in sheep's clothing and worse. To this end such men of sane perspective and actual cognizance of the workings of compulsory health insurance as Doctors Edward H. Ochsner and George Apfelbach of Chicago, and W. D. Chapman of Silvis appeared on the program at the meeting of the Michigan State Medical Society, April, 1920, in response to this demand and explained some of the inevitable dangers of compulsory health insurance and state medicine in any form. These three men are all close students of this devastating problem.

The rank and file in Michigan at that time were absolutely opposed to any system of state medicine. Feeling that this attitude had not been changed, an immediate investigation was made of Dr. McLean's assertions and our idea sustained, as can be seen from these citations.

Among other comments received were these from Dr. V. L. Van Duzen and James G. Sipe (attorney at law) of Detroit, Michigan, respectively secretary and executive secretary of the East Side Medical Society, and Dr. E. C. Baumgarten of Detroit.

In part Mr. Sipe says, speaking from the legal standpoint:

"The East Side Medical Society in its investigations, made the following findings:

"First: That there is a definite trend towards State Medicine, which manifests itself through over-zealous health and charity workers, and misinformed and neglected legislation.

"Second: That the private practicing physician and surgeon is in direct competition with public, salaried doctors, nurses, public health workers and state hospitals.

"Third: That the profession has been misguided by an antiquated code of ethics.

"Fourth: That the solution is organization and inter-harmony to protect the public against charlatanism, and the medical profession against imposition.

"The following statement will summarize and in a way enlarge upon the statements heretofore made. The Society, acting through committee, found the State, County and City Boards of Health treating all types and conditions without regard to financial responsibility.

"Over-zealous board of health and school nurses soliciting cases for treatment.

"Use of State Hospitals for care of others than the indigent, and cutting fees, making competition prohibitive.

"Lack of co-operation between the boards of health and the physician.

"Trend of legislation against the private practicing physician.

"The 1927 legislature passed sufficient laws to make State Medicine possible in the state of Michigan: a few of them are, briefly:

"1. Act 207 of the Public Acts of 1927. An act to organize the State Psychiatric hospital at the University of Michigan—control of the hospital in a board of trustees—to make rules fixing charges to be made against private patients or may make special contracts for the care of same—board may also organize dispensaries and mental hygiene departments for the examination, treatment and maintenance of patients, in any city or community of this state; and may make such provision as may be deemed necessary and expedient for the prevention of mental diseases and the preservation of mental health, etc. Patients divided into two classes for admittance—those able to pay and those unable to pay.

"2. Act 236 of the Public Acts of 1927. An act to declare the policy of the State of Michigan with reference to crippled children; and to provide for their registration, examination, diagnosis, treatment, convalescent care and education. Briefly, the acts contain the following:

"(a) A crippled child includes persons from birth to the age of 21 years.

"(b) Defined as one whose activity is or may become restricted by loss, defect or deformity of bones or muscles as to his normal capacity for education and self support.

"(c) The sum of five cents to be paid to school census enumeration for each crippled child reported.

"(d) Commission to arrange for a County Clinic in each county for examination and diagnosis. There shall be at least one clinic in each county annually.

"(e) Examination and diagnosis by an orthopedic surgeon selected by the commission. Manner of treatment to be recommended by said orthopedic surgeon.

"(f) People to be charged who can afford to pay and surgeon to receive a reasonable fee.

"(g) Out Patient Department—Follow up supervision on all cases diagnosed at County Clinics.

"(h) University of Michigan hospital at Ann Arbor designated for the purpose

of carrying out the provision of this act.

"3. Act 306 of the Public Acts of 1927. An act to provide for County Health Departments. The board of supervisors of any county may provide for a county health department. The jurisdiction to be county-wide except in cities having a full time health officer; except that such cities may elect to join with the county in the organization.

"4. Act 309 of the Public Acts of 1927. An act to provide for the physical examination of drivers of motor vehicles. This act requires drivers of public vehicles carrying passengers to have a physical examination and allows the doctor to charge the handsome fee of three dollars or less.

"You have perhaps already noted, from the facts so far, that State Medicine is a reality in Michigan. Nothing else remains to be done in the way of legislative enactment. It is just a matter of time.

"In the city of Detroit, the Community Fund, by public subscription, collected \$3,000,000 to be disbursed for charitable purposes. The Board of Health requested \$4,600,000 for its maintenance for the year 1928, and the welfare commission requested \$4,500,000 for the year 1928, making a grand total of \$12,000,000, of which a small portion would care for the really indigent patient and cover the cost of the Board of Health, if it would limit its activities to preventive medicine and contagious diseases. These figures are exclusive of private charities such as the old newsboys fund and numerous privately maintained clinics. There are 1,400 doctors in the city of Detroit, whose average income would be about \$8,000, whose total gross earnings would be \$10,400,000. Obviously, this gross figure is considerably less when the expenses and numerous demands incident to the practice of medicine are deducted.

"We find our state hospital in Ann Arbor operating at cut-rate, at prices which prohibit competition and on persons who are well able to pay a fair charge. It is our purpose to limit all of the mentioned organizations to the care of indigent cases only."

Which is corroborated by Dr. Baumgarten in part as follows:

"I was very much interested in your inquiry in regard to our State University and the activities of various agencies in relieving the physician of his practice. We in Detroit are of the opinion that things are progressing to the point where some con-

certed action on the part of medical men must be taken.

"The East Side Physicians' Association of Detroit, representing about five hundred physicians, of which I am president, has taken a very active interest in this matter during the past year and has succeeded in stirring up considerable sentiment among the profession in this neighborhood.

"There were passed last year in the last legislature eight laws pertaining to medical practice, four of which we believe are especially vicious. I would like to mention each one of these and call your attention to things which might escape casual observation.

"First, the statute governing the examination of licensed drivers. The object of this, of course, is excellent, but it was sponsored by a man who has some grievance against the medical profession and to retaliate the limit of the fee for a complete physical examination was set at three dollars, thus limiting by law the fee which may be charged. We believe this to be a bad precedent, and as so often happens, the object of the law was at once defeated because many of the irregulars at once advertised that they would be glad to do the examination for one dollar and obviously such an examination means nothing.

"Second, the statute making possible the establishing of county health units by the state board of health. On the surface this seems to be a very laudable action, because it does not provide any facilities for clinical work, but in searching for the 'nigger in the woodpile,' we found that way back in 1913 a law was passed which provided for county hospital units financed by each county and under the supervision of that state department of health. So you see, the teeth were the first part of the development of this child and the body came much later. A good bit of the energy was taken out of this bill, however, by the action of the Wayne County Medical Society, which voted almost unanimously against the adoption of the measure and sent a copy of the resolution to every county society in the state with the result that all but a very few have voted the thing down. This was possible because the commissioner made the statement that he would not establish a unit anywhere where the medical profession was opposed to it.

"Before taking up the other two statutes which deal with the University of Michigan, let me say that it is the general opin-

ion of the medical profession here that this institution is the most difficult and at the same time the most urgent problem we have to deal with. The activities of the cults and paths, etc., is a mere trifle compared with this, because it is the type of competition it is most difficult for the profession to meet. Their means of publicity are not limited by same shackles of ethics the rest of us must submit to and their personnel is most capable. An investigation was taken up by our State Society last year and a preliminary report was published in the July number of the Journal. A final report will be given at our next meeting here in September. My personal view, and I believe I am expressing the opinion of the profession at large, is that I am opposed to anything at Ann Arbor over and above the requirements of a teaching institution and the care of the indigent poor of the state.

"Next the statute pertaining to 'Mental Hygiene.' This makes it possible for the establishing of "mental hygiene" stations anywhere in the state, supervised solely by the authorities at the university. Fine. But did you ever stop to think of the possibilities of the term mental hygiene? The law includes anyone who may at any time be subject to conditions which may affect the mental efficiency. Anyone who has syphilis in any form is certainly a prospective 'customer.' A child, backward in school because of physical defects, etc., can be treated in these clinics and what not without limit.

"Lastly, the orthopedic bill. This, I believe, is the most vicious of all because it carries with it an immediately available appropriation of \$50,000. This bill makes it mandatory to do a lot of things. First, the school authorities must report every crippled child, for which they receive compensation. And it goes without saying that every cripple or near cripple will be reported. It is mandatory for the commission to hold a clinic in every county in the state once a year. The commission has power to say who is going to treat these cases, and since the mayor of Ypsilanti was appointed commissioner and the meeting for the organization was recently held in Ann Arbor, I leave it to you to judge who is going to treat them.

"Of course, they say the bill provides that patients in this group may be sent to any hospital having an orthopedic surgeon and facilities to handle them, but that is one of the things that never happens.

"We are having considerable trouble

with our free clinics here also, but those are purely local matters and I will not bore you with them, but I will say that I have watched with some interest your own activities and have marvelled for a long time that it all seems to pass unnoticed.

"I have written you thus fully because it is a subject in which I am intensely interested and never lose the opportunity to arouse a similar feeling in others."

And further elucidated by Dr. V. L. Van Duzen, secretary, who says over his own signature in commenting upon the society's meeting at the Battle Creek Sanitarium, January 5, 1928:

"Because of your absence you missed a committee report which stirred up more enthusiasm than we have ever seen before at any of our meetings. When about one hundred doctors were each trying to give fifty dollars to the secretary at one time, you will believe us when we say that there was a great display of enthusiasm. Now this committee report dealt a death blow to a grievance of long standing which we have been individually protesting for years, namely—State Medicine. The report showed that state medicine is not a thing of the future, but is here in actual practice."

"In 1927 the state legislature of Michigan passed eight new laws affecting state medicine and making state medicine a reality. We knew nothing about these laws until our newly appointed legal department brought them to our attention."

The last statement is pregnant with the significance of the danger of medical indifference to state legislation.

The medical profession of Michigan has our sincere sympathy and are deserving of our moral support. Our best information is that organized medicine in Michigan is absolutely in the hands of state paid officials, both university and health boards. In spite of the gallant fight made by some of the leaders of the profession in Michigan in 1920 against the invasion of the compulsory health insurance octopus and their alertness to the dangers of the oncoming menace, the state medicine advocates have somehow continued to keep boring in until today Michigan is getting it all to the ninth degree and all in the name of an alleged suffering public which is to be made sick even if it isn't.

IT HAPPENED IN MICHIGAN BUT IT COULD NOT OCCUR IN ILLINOIS

Advocation of analogous anti-medical legislation in Illinois, in any degree—whether of one bill or of forty bills—would be noticed immediately upon such introduction by scores of medical men, mounting into the hundreds in fact, and measures would be taken immediately to combat this general menace.

Illinois State Medical Society has a wide-awake legislative committee, aided and abetted in its general alertness against these evils by practically every member of the society. Again, it is the personal touch that counts.

To the bystander at large it would appear as if the State of Michigan were well on its way, far and above any of the other states, to a program of socialized and state medicine. This is due, of course, to the control of the machinery of the State Medical Society in Michigan by the State Department of Health, and the interference by the State University hospital with the prerogatives of the medical profession through the hospital's competitive practice of medicine. This is possible by placing upon the individual taxpayers the burden of partially paying for the necessary overhead met with in caring for the sick and infirm.

If this is logic and good economics the scheme should be carried further and result in the taxpayer paying partially for clothes, food, rent and other requisites of patients able to pay.

Organized medicine in Illinois functions to prevent just such professional handicaps and legal activities as are indicated in this excerpt from an article in The Bulletin of the Wayne County (Michigan) Medical Society. Protection against just such injustice is one of the results of the diligence exerted by the Illinois State Medical Society in behalf of the membership.

"The need for better representation of the medical profession wherever lawmaking bodies convene becomes quite obvious when it is noted that during the year just passed, at least eight new laws, each of such a nature as to curtail the activities of the regular medical practitioner, have been enacted by the legislature without the knowledge on the part of the profession, of what they were all about.

"This situation gives but a faint idea of the effort being exerted toward legislating the profession in one way or another, and it seemed high time that medical men take an active hand in the proceedings, lest they be legislated entirely out of the picture."

May 22, 1928.

Dr. C. J. Whalen, Editor,
Illinois Medical Journal,
25 E. Washington St.,
Chicago, Illinois.

Dear Dr. Whalen:—

I am quite sure you will accord opportunity and space to correct the statements, apparently reached through mis-information, relative to the Michigan State Medical Society, State Medicine, Legislation and the University Hospital as published in your Editorial Columns of the May issue. If this condition did exist, as your editorial states, then "To the bystander at large" the conclusion might be justified that we "were well on our way to a program of socialized and State Medicine." Happily your information is *mis-information* as is also your statement that "this is due to the control of the machinery of the State Medical Society in Michigan by the State Department of Health, and the interference by the University Hospital, etc."

To confirm that these are erroneous and mis-represented facts permit me to submit the following official statement:

1. Our State Commissioner of Health, though president of our State Society some ten years ago, holds no office in our Society other than being Chairman of our Legislative Commission. This Commission is studying the medical laws of this country for the purpose of drafting a new Medical Practice Act for presentation to our next Legislation. It is purposed that the proposed act will include provisions that will better safeguard the welfare of the people and our profession. Other than this no office in our Society is filled by a member of the State Health Department.

(B) Our State Commissioner of Health from the day he assumed office has not instituted any health measures or promulgated any rules or regulations without first submitting them to the Council of our State Society for approval.

(C) No Clinics are conducted by the Department of Health that are not sponsored and participated in by the local County Medical Society.

(D) The Commissioner has appeared before many of our County Societies and stated that his department is not and will not be concerned with the practice of medicine and in all preventative health measures he is keenly eager that the private individual physician shall administer the immunization serums and requests the

doctors to so protect their patients. He re-iterates that he will co-operate with the doctors as far as they permit co-operation.

Our Commissioner of Health is not dominating the profession of Michigan or the State Society. Before appointing him, our Governor consulted with officers of the Society and the Society's endorsement was filed with the Governor. For the first time in many years we feel that we have a Commissioner of Health possessed of outstanding qualifications. Qualifications that are reflected in a well earned reputation and ability as a health officer—a reputation extending throughout the country and to which we point with much pride. He is co-operating with the profession as has never been done before and has firmly convinced us that he is intensely sincere in his conducting of the Department to not ignore the inherent rights of physicians. We are convinced that State Commissioner of Health, Dr. Guy L. Kiefer, is not a proponent of State Medicine.

Legislation—Your editorial cites some eight bills related in degree to medical practice in Michigan and implies that they were enacted with design to establish state medicine. Again I advise—We have a Committee on Legislation composed of members not affiliated with any health office or state department. During our last legislature this Committee was on active duty in Lansing. In addition our President, Secretary and Executive Committee of the Council made frequent trips to Lansing, held numerous interviews with members of the Legislature, the Governor, presiding officers and Committee Chairmen. Further we had an attorney, paid for his time and services, who remained in contact during the entire session of the legislature. In addition, our then President, Dr. J. B. Jackson and our State Secretary formed a Central Committee composed of two representatives of the following state agencies concerned with health measures: State Dental Society, State Tuberculosis Society, State Nurses Association, State Charities Association, and the Red Cross for the purpose of recording the combined influence of the members of these organizations for or against proposed legislation. No bill was introduced, but what a copy was secured, the bill referred to our attorney and a close study of its provisions was made. In several instances bills were caused to remain buried in committees. A Chiropractic and Osteopathic bill was defeated.

Legislative measures were reported from time to time in the Journal. Thus did the Legislative Committee, Executive Committee, Attorney and officers scrutinize the activities of our last legislature. We knew of the enactment of the so-called eight bills referred to. When one reads these bills in their entirety and notes the provisions in detail we do not believe they can be construed as State Medicine measures.

We therefore disclaim that legislation tending toward State Medicine was condoned by the State Medical Society. We further disclaim that the State Society abets the institution of State Medicine.

State University—We admit that up to the last few years affairs and conditions at the University Hospital did not meet with the profession's entire approval. We have known that for several years and during those several years the representatives of the State Society have been intently active to bring about a more satisfactory relationship and cause an abatement of certain practices. It was not an easy task or problem, many factors and influences were involved. Progress is being made and, as announced last February, closer liason has been established by the appointment of an Advisory Council, recognized by the Regents. This advisory Council is composed of the President, Secretary, Editor, Chairman of our Committee on Education, and Chairman of the Councilours. Committee on County Societies as representative of our State Medical Society. This advisory Council will still more intimately concern itself with the University Hospital affairs. It is our eventual hope that satisfactory results will attend the Council's labors.

Our State University is our University in which we as citizen's and taxpayers have just pride. At times we may have been negligent in failing to exhibit interest but that day is past. It must be remembered that it is a great institution in which many and diversified state interests are centered and that its management is fraught with many complexing problems involving many factors. Its policies cannot be created, amended or abrogated at the moment. The interests of all must necessarily receive consideration. Our State Society is alert in representing the profession's interests.

The University does not dominate the

State Society—it did ignore the State Society in years past but the evidence is quite convincing that now the State Society will receive consideration and the Society's expressions will receive just recognition.

We, in Michigan, are jealous of our reputations and resent mis-leading, unsubstantiated statements. We feel we are in alert, intimate contact with all state affairs that bear upon medical practice, public health activities and state medicine. We too recognize that in our midst there are clinics sponsored by social reformers under lay direction, but not any more so then in Illinois, and we are engaged in an attempt at their control. We prize your solicitousness but just now it is our urge that you do not impugn conditions in Michigan until you actually possess facts. The officers of the Michigan State Medical Society will always be glad to supply facts of a nature that is absolutely authentic and not deduced from aberrant machinating minds.

The problems of social medicine—the policies of clinics, lay dominancy of so-called welfare movements, the conduct of University and teaching hospitals, the demarcation between public health and preventative health measures and state medicine so-called are stupendous problems, tremendously exacting in their multiple impingements upon every phase of human life and activity. Solution and adjustment is not born of the moment nor in a single group. The demand is, that all sincerely and determinedly, seek the ultimate answer—you in your field and sphere and we in ours in order that from the combined attrition of earnest minds and the interchange of reason, judgment and discernment definite applicable policies be instituted. In doing so it ill becomes us to broadcast aspersions upon state groups—especially so when the assailed group is honestly in quest of light and guidance as is too the profession of Illinois. We in Michigan assure you of our friendly esteem and good will and sincerely desire to merit in like manner the esteem of the profession of Illinois and its valued publication—The Illinois Medical Journal.

By Direction of the Council,

F. C. WARNSHUIS,
Secretary.

County Society Secretaries' Annual Conference, Michigan State Medical Society—May 14, 1928

BOOK-CADILLAC HOTEL, DETROIT, MICHIGAN

As planned, the Annual Conference of County Secretaries was held in Detroit on the afternoon and evening of May 14, 1928. We append the stenographer's transcript of the papers and discussions. Especial attention is directed to the paper presented by Dr. Ross of New York on Medical Legislation. The reading of these articles and discussions will impart to the reader a closer insight of the work of your Society.

STENOGRAPHER'S TRANSCRIPT OF MINUTES

MONDAY AFTERNOON SESSION

May 14, 1928

The Annual Conference of County Medical Society Secretaries of the Michigan State Medical Society, held in the Book-Cadillac Hotel, Detroit, Michigan, was called to order at two-fifteen o'clock by the President of the Society, Dr. H. E. Randall.

President Randall: There are two criticisms of medical organizations: One is that they never start on time; the other is that the Chairman talks too long. There is a story told of someone who was to introduce Bryan, and who, in doing it, made a very long speech. It was the opportunity of his lifetime, so he left Bryan only about fifteen minutes to make his speech and catch his train. A farmer afterward was asked how he liked the meeting.

"Pretty good speech that fellow made, but the bald-headed guy wasn't any slouch."

I do not intend to make the speech of the afternoon.

I believe the primary object of medical education is to make better doctors, and the county society is really a post graduate institution. I have said that a state society has four functions to perform:

(1) To educate the doctors, to educate each other by exchanging experience, by reading papers; (2) Education of the public. These two are related, because the more you educate the public the more they have confidence in the doctor. At the same time it stimulates the doctor to live up to the confidence the patient has. (3) To protect the welfare of its members. Of course that is done in your legislative work

and also through your medico-legal committees. (4) To keep doctors together, to keep them friendly to each other.

That medical organization has been a success in America is evidenced by the fact that a few years ago the average income of doctors in the United States was \$700 a year. The last figures we had showed that the average doctor's income is something like \$3,000 a year. At the same time, the doctor has received more, but the public has also received more.

No man, no matter how much he can possibly contribute to medical organization or to medical knowledge, can repay the debt that he owes to medical societies and to the men who have given him this knowledge. I want you to think of this meeting as a gathering of those of us who are here to exchange suggestions.

I am going to turn the meeting over to Dr. Warnshuis who will talk to us about "Organizational Activities."

F. C. Warnshuis: Mr. President and Fellow-Secretaries: Last evening when I reached Detroit, a long distance call awaited me from Ann Arbor. Dr. Bruce informed me he would be unable to be present here today because of illness that is confining him to his bed. He thought possibly his doctor might let him come over tomorrow. He has thrown the burden of the next two topics on the program somewhat upon the Secretary. As you know, it is usually the Secretary's job to fill in when the speaker falls down.

It was some sixteen years ago that through Dr. Schenck, who was Secretary of the State Society, the County Secretaries' organization came into existence on a boat at the time of our meeting at Manistee. Possibly Dr. Hume will recall the occasion. For a number of years the County Secretaries met in conjunction with the State Society at the annual meeting. Then the time came when these meetings for some reason or other were abandoned until about four years ago these sessions were resumed in connection with the annual meeting. But the activities of the annual meeting detracted so much from the work that might be accomplished by

the County Secretaries at a conference like this, that the Council determined to set a time other than at the annual meeting, for the holding of these annual conferences. As possibly most of you know, they have been held at Grand Rapids, at Jackson, at Detroit, and one at Battle Creek.

The idea, as President Randall has somewhat intimated to you, of this conference is to ask you men who are really wheel-horses of the organization in the state to meet together, to exchange experiences, and to see wherein and how we may add to the influence, to the value, to the usefulness, of our County Medical Societies in the state, in service not only to the doctors who are our members, but also to the public at large to whom we owe a responsibility.

The subject of organized activity was placed upon the program and assigned to me by the Chairman of the County Societies Committee of the Council, who arranged this program. When we come to consider organized activity, we realize that it is a much twanged string, a string that is capable of yielding varied tones in a minor or in a major key, dependent upon the individual who is doing the twanging of the strings. In that respect I am not going to talk about the old twangs with the old songs, but rather about some of the activities and responsibilities that have been assumed by the State Society and that have been exerted now in its influence through the County Societies, and I am going to acquaint you probably a little more intimately with the twenty-four diversified activities that now arrest the attention of your state organization.

The accusation is advanced at times that we as Secretaries, both of the County Societies and also of the State Society, are doing very little. Those accusations are made by men who really do not know the activities that are placed upon the shoulders of individual officers of our state organization. If their accusations were true, then both you and I are spending a lot of our time uselessly and not accomplishing anything. You and I individually may know what is being done, but the other fellow doesn't. That is why it becomes obligatory for us not only to do our work, but to be actual ministers, missionaries, of organized medicine in educating not only the public, but our fellow members, and sometimes I think that our fellow members need more educating than does the public at large.

Your state organization at one time, as

with all organized units of the medical profession in this country, was merely an opportunity for men to get together to discuss scientific subjects; scientific papers were read, case reports and individual professional experiences were exchanged. But the day of that type of organized medical activity is past. With the progress and the trend of the events of the time, a greater responsibility has been placed upon the individual doctor and the profession as a whole in their relationship to the public.

We have two duties to assume, as Dr. Randall intimated somewhat in his rather brief opening address. Two types of duties are ours: First, those pertaining to the professional side and professional features of our work; second, those pertaining to our relationship to the public and the public's relationship to us.

Your State Society is concerned vitally, actively, earnestly, in both of these problems. I purpose in somewhat of a sketchy way just to advance or to touch upon some of the things that are being accomplished and the work that is being evidenced throughout the state. I do hope that it will lead up to just one thing. If it does, this meeting will be of untold value and success to each one of you. That one thing is that you glean all these facts, and if there are any questions of doubt, that you ask questions in order that we may explain them to you. If I cannot explain them, other members of the Council who are present may be able to give you more accurate information.

Of course you are aware of the activity of the Journal. You know that up until the present year the Journal was edited by the Secretary. Because of these many diversified activities, the time of the Secretary consumed in editing the Journal prevented full supervision that might well be given to these other activities but which were being neglected because the Journal had to be gotten out each month. In the solution of this problem, the Council wisely, I believe (and I think you will all probably agree), divorced the office of Secretary-Editor and appointed a new editor of the Journal in the person of Dr. J. H. Dempster, of Detroit, who is well known to the majority of you. Dr. Dempster is editing the scientific end of the Journal up to and through the editorial pages. The Council, however, still has placed upon the shoulders of the Secretary the burden of the management of the Journal, the printing of the Journal, the advertising business of the Journal, and also that section

of the Journal that is devoted to the County Society reports or purely organizational activities. While we have been relieved of a lot of proof-reading, we still have the duties of editorship in connection with these departments of the Journal and also its financial management.

However, it has afforded us more time that is now being devoted to the other features of our organizational work.

You also know about the medico-legal defense of our Society, which has been in existence for a good number of years. The success of that feature of our organization is so well established that none of us ever would think of abandoning it. Many of us little realize the value and the protection that it gives. It is not until a man is sued for malpractice that he commences to appreciate that value of medical defense in the manner in which he is defended in his malpractice suit.

Dr. Tibbals, who has been Chairman of the Medico-legal Committee since its organization some eighteen years ago, promised to be here a little later this afternoon, and he is going to give you a somewhat more intimate picture of the activities and demands that are made upon his Committee and the protection they are according to our members.

You also know, possibly in a superficial way, of the work of the Joint Committee on Public Health and Education. I say possibly in a superficial way, because of the inquiries that come in the mail to our office relative to subjects pertaining to the activities of that Committee; also because the work of that Committee and the benefits of that organizational work are not being received, are not being obtained in the counties through the state as widely and as fully as they might be.

This Joint Committee, let me repeat, is constituted of a representative from our State Medical Society, the University of Michigan Medical Department, the Michigan State Department of Health, the Michigan State Tuberculosis Society, the Michigan State Dental Society, the Michigan State Nurses' Association, and one or two other welfare organizations of the state.

This Committee is headed by President Little of the University of Michigan, who is its Chairman.

The object and work of this Committee is to disseminate to the lay people of our state the truths of scientific medicine. It has enrolled some 300 or 400 speakers from among our membership of the state

who are able to go and are ready to go out to any lay organization and talk upon any subject of scientific medicine. The enrollment of these speakers is compiled in a program and the assignment of places and appointments are made through the Extension Department of the University of Michigan.

This program, containing the list of 300 speakers, together with the topics upon which they talk, has been sent and is sent each year to every Parent-Teachers association in the state, to every Grange organization in the state, to every noon-day luncheon club, and to many of these little community clubs, literary societies, and welfare organizations that are in existence. They are advised that they may select one or as many as they want of these speakers for any meeting that they may sponsor, and that the speaker will come and talk to that audience upon these subjects that are enumerated in the program, without expense to them except that they are to bear the expense of providing the meeting place.

That is a wonderful opportunity to convey to the public some of the truths of scientific medicine and to combat the misleading allegations and statements and claims of those who attempt to practice medicine or who attempt to treat the ills of humanity through the various schools of cults that are in existence. It has been felt by those who have sponsored this work that if we can educate the people as to the truths, then in their own judgment and wisdom they will no longer seek the administrations of those who are ill prepared to take care of them.

During the last year in the meetings that were held under the organization of our Joint Committee on Public Health and Education, some 180,000 lay people in the state of Michigan were so addressed and so enlightened. We cannot produce in figures or in illustrations the good that is being accomplished by that work. We cannot give you any tangible or definite evidence other than that as we tell the people that which we can do for them, it must be apparent they are going to acquire or make it their business to acquire these benefits and not to be misled by the misstatements of those who represent these other cult organizations.

That is a missionary task entirely, and I think you will find that the sentiment of friendliness to the medical profession by the people at large is gradually becoming more apparent than it was five years or

even two years ago. It is a part of the organizational work that is being conducted by your State Society.

I said I was afraid that many of you did not know what was being done, because these meetings are not being held as often nor in as great numbers in the various counties of the state as might be. It is one of the things that the State Council would like to have the County Secretaries do: To cause some of their local lay organizations to secure some of these speakers and to conduct some of these public health meetings in their communities.

If you will write to the Secretary of the Extension Bureau, Dr. W. D. Henderson, at the University of Michigan, he will send you a bulletin containing the list of speakers and their subjects, and through proper committees from your County Societies you can obtain some lay organizations in your communities to sponsor the holding of these meetings. You will accomplish a lot of good in your counties in that way.

I do not recommend that the County Medical Society sponsor the meeting, because then you lay yourself liable to the public charge that you are trying to feather your own nest; be the silent worker back of the movement and obtain the support and cooperation of some lay organization that will conduct and sponsor these meetings in your county, and I am quite sure you will derive a lot of benefit from them.

In addition to that, the same Joint Committee believes in teaching the young and converting them to the truths before they are misled and misguided by these cult organizations. Starting first in a couple of our cities, and extending to most of our high schools—not all, but as rapidly as possible—this Joint Committee is conducting a series of six to eight talks at a general assembly of the high school students of the high schools of our state, talking to them on such subjects as Pasteur, his life and his influence, and conveying to them through that subject of Pasteur, the story of bacteriology; Lister, and conveying through Lister's life and what he accomplished the story of surgery; and through similar topics they are conducting in the high schools of our state a series of six to eight lectures in the year for the education of the high school students. I think you perceive the benefits and the educational features that are being obtained from that type of public health education.

That is one method that your State So-

cietiy is utilizing for the education of the public.

The question arises almost every week to you, and certainly it does to me: Why are we permitting men to practice without licenses, men who are not being made to meet the same standards that you and I and every graduate of medicine are made to meet in regard to the legal qualifications or the legal enactments of our state? Why doesn't the State Society, the County Society, do something to prosecute these quacks? I don't believe it is necessary for me to comment at any length upon the question of legal procedure against infractions of our medical practice law. The many impinging difficulties and obligations that arise are possibly apparent to a good many of you. Your State Society, your County Society, cannot be the police officer for the enforcement of the medical practice act of the state. It must be done through some other avenue or channel.

It is true that your State Society has, for the last fifteen or sixteen years, been at each session of the legislature and fought the attempts made by these cultists to secure personal legislation for their own favor and to legalize their activity and cult practice. Your state organization, possibly not openly, because those of you who have ever encountered the school of politics and its methods as evidenced in our legislature know that a good many of the things you accomplish are done on the quiet in the personal interview and without any blare of trumpets or any degree of publicity, has been represented at the legislature and has prevented the enactment of any chiropractic law in Michigan creating any chiropractic board. When I say your Society, I mean the State Society and its constituent units, because many of you men have been the means of securing local registering of disapproval on the part of influential individuals in your counties with the members of the legislature, which has enabled us to defeat this legislation. So it is your State Society. But your state organization has done this: At the last session of the legislature, our Legislative Committee has been in constant contact with the legislature. The President of your State Society, your Secretary, the members of the Executive Committee of the Council, have been at Lansing during the session of the legislature, not once, but all the time. In addition to that, your State Society employed, without anyone's knowing he was there for that purpose, a well known attorney who represented our interests, who

sat in on committee hearings, and who had individual and personal conferences with members of the legislature, who interviewed the Governor, the Lieutenant Governor and the Speaker of the House, and who obtained in that way their assistance for the defeat of undesirable legislation.

The value of the time occupied in that way cannot be imparted in words or computed in money or deed, but it is only the final aggregate result that enables us to say that that is worthwhile activity on the part of your state organization in protecting the interests of the individual doctor and is part of the benefits of membership.

Some of these things that have gone on at Lansing and the methods that have been employed to combat the attempts that have been made there have not been imparted for the very reason that it was not politic to impart them, for it would enable your opponent to see what your hand held, and so would circumvent the methods that were instituted. But you can rest assured and you can tell your members that at every session of our legislature the state organization, representing the profession of Michigan, is alert and on the ground.

Some have said that some of the bills that did pass were to the detriment of the interests of the individual doctor and the profession as a whole. I cannot quite agree, because every bill that was passed there was carefully scrutinized by the attorney, by the Legislative Commission, by the Executive Committee of the Council, by individual members of the Society, and also by the Special Legislative Committee of the Wayne County Medical Society that joined the State Society in its legislative activity.

Some questions may be raised, especially on this chauffeur's examination license bill that was passed requiring every chauffeur to have a physical examination and wherein the law set the fee at \$3. We will agree with you that \$3 is not a proper compensation for a physical examination of a chauffeur, but when you look at the degree and extent and scope of that examination, it is a part compensation, and it was a darned sight better as an agreement to accept the \$3 clause than to have the state appoint one or two medical examiners to make these examinations on an annual salary basis. Sometimes compromises have to be made. I believe that was one of the compromises that was made, not with the intent of appraising the value of the doctor's service in making the examination, but to

defeat the institution of state officers who were going to make the examination.

That I just inject as a sort of side explanation of why sometimes we do not get all that we want or the ideals that we have in mind are not attained if we have to compromise on some of these legislative activities.

You remember that at the last meeting of our House of Delegates, it was enacted that the President appoint what is known as a Legislative Commission, and it charged that Legislative Commission to study the laws of medical practice in this country as now being applied, and to endeavor to draw up or to form or to write a new medical practice act for the state of Michigan governing the practice of all those who hold themselves out as being able and ready to take care of the physical needs and physical ills of the people of this commonwealth. That included the doctors as well as the chiropractors, the osteopaths, and any of the other fifty-seven varieties of "paths."

This Commission was so appointed and has been at work. It has secured the laws of all the states in the Union, including those new basic science laws that have been passed and instituted in some of the states. It has carefully studied these laws. It has written for and secured information in answer to a questionnaire that was sent to the secretary of every state board of registration in the Union, and to the president and secretary of every state medical society in the Union, asking them for their personal interpretations and experiences in their respective states in regard to their medical practice acts, hoping thereby to gather facts that would enable the Commission of your State Society to draw up what we might term a model medical practice act.

I am not going to say anything more about the subject of medical legislation or the work of this Legislative Commission, because if you refer to your program you will see that it is a subject for discussion this evening, and we have been very fortunate in securing Dr. Ross, of the New York State Medical Society, who is the leader and pioneer in the legislative battles that were wrought and the achievements that were accomplished in the state of New York upon this very same subject. He and Dr. Kiefer, the Chairman of our State Commission, are going to discuss this subject with you tonight. I mention it merely to show you that it is another of the activities of your state organization that is

being advanced and conducted for the interest and welfare of the members.

In the matter of post graduate education, Dr. Bruce was going to handle this subject, but he has authorized me to make certain statements and to give you a report of some of the activities of his Committee of which he is Chairman, in regard to post graduate education. You know that some years back we started with the idea of sending to County Societies teams that conducted scientific programs. This, for several reasons, did not prove very satisfactory. Though it was realized that their services were of value, the application in that form did not serve the purpose that was being sought.

Then instead of county meetings we started the post graduate conferences in the Councillor Districts—one-day sessions. These have proven to be very successful; they have proven to be very acceptable to the men, and they have been eager and anxious to have them. They have been conducted every year for the past four years, to the number of fourteen and eighteen, and in one year twenty-two, throughout the state. They are being so conducted this year.

In addition to the post graduate conferences, arrangements were made two years ago, you will recall, for a post graduate clinic at the University Hospital for two and a half days. It was repeated last year and had a splendid response in attendance.

It was then felt that these post graduate clinics were worthy of further development, so Dr. Bruce's committee is at work and has tentatively outlined not only this clinic that is being conducted four days of this week in Detroit, but purposes also to conduct one in Flint sometime during the late summer months, one in Grand Rapids in the early fall months, and another post graduate clinic at the University Hospital undoubtedly in the early weeks of November, the idea being to give to our members opportunities for post graduate study, post graduate information, with the least personal discomfort and inconvenience possible, and with the least expenditure of personal funds; in other words, bringing as far as possible, these post graduate clinics to your very doors in order that you may benefit and profit thereby and be reflected in the service that you are rendering to the people of your community.

There are other things in store, things that cannot be wrought in a moment. While it is true that in one or two in-

stances clinics that were contemplated for districts were not held thus far this year, it has not been because of any neglect on the part of the officers of your State Society or its Clinic Committee, but it has been because our plans had to be made to conform to the big plan that is being worked out by this Committee and of which an announcement will be forthcoming within possibly the next month, certainly within the next sixty days.

I can intimate to you that it tends and leads to the establishment of an all-year post graduate school to which our members may come and pursue a course of post graduate study, spread over the year, according to the time that they can devote to it during the year. For illustration, a man may come for a couple of days and take a course in heart conditions, we will say, and take a couple of days' work this week, then two weeks later he may come back to take a couple more days, and two weeks later a couple more, so through the year he may spend a definite amount of time and pursue a definite course of study at this post graduate school. That is not only true in medicine, but it is true in the diagnostic fields of medicine, the laboratory work, and the specialties, to provide that post graduate opportunity for our members within the bounds of our state, conducted under plans that will equal any post graduate school in our country and will be of service to each individual physician, and through that post graduate school make available speakers, teams (not in the sense that we used to use them ten years ago), men who can go to county societies and be enabled to give practical demonstrations at county meetings as well as to conduct these post graduate conferences that we have been conducting one day each in the various societies.

There is a vast amount of detail to be worked out in connection with that program, and it is because of these details that seemingly some of the conferences were not held at the time they were scheduled, and were postponed, but I can give assurance to each one of you from Dr. Bruce and from the other officers of your Society, as well as the Council, that the work of post graduate education is not being neglected in Michigan this year, but that before the end of the year we will exhibit and record greater activity in providing post graduate opportunities for our members.

Much criticism has been raised also regarding some of the methods of the Uni-

versity Hospital. That is a criticism that has existed, I guess, ever since the University Medical Department has been in existence, and it may continue to exist. It has an interlinking, impinging contact with not only the doctors, but with everybody in Michigan, with the legal profession in Michigan, with the County Charity Boards, and the Health Departments. It is a problem that has grown as the years have advanced, and has attached to it many tentacles that are hard and barnacles that are difficult to tear off. It cannot be accomplished or wrought in one night, one week, or one year.

A good many of you recall the conference that was held in Ann Arbor some five or six years ago when we were afraid at one time during that conference that the President of the University was going to come to blows with the President of the Wayne County Medical Society. So your Society has been concerned with this problem. We have been making headway. Within the last year definite headway has been made because now the University, through its Board of Regents, has asked for and there has been appointed an Advisory Council to the University Hospital post graduate work. That Advisory Council is constituted of the President of your State Society, the Chairman of the Council's Committee on County Societies, the Chairman of our Committee on Medical Education, the Editor of the Journal, and the Secretary of the State Society. It is now a recognized representative committee of your State Society that is going to sit in at the deliberations, the management, and the administration of the University Hospital to safeguard the interests of the individual doctors. If that is service, I do not know, but I believe it is. We are trying to solve that problem. That is another activity of your State Society.

I have talked a lot, President Randall. I don't want to continue talking about these various things, but there are some twenty-four diversified activities of your State Society that are being advanced, that are being directed, that are being expanded in the interest of organized medicine and its individual members. It can only succeed as the support of the profession is obtained for this work. The State Society is dependent upon its constituent unit, the County Society, to do its work in enlisting and enrolling this support. In the County Society there is only one man who is really the wheel-horse, the man who directs the

life and the achievements of that County Society. It is not the President; it is the Secretary. I can speak feelingly with all of you, because for six years I was a County Secretary also, and I know the griefs and burdens that you have to bear in your individual communities. However, it is a contribution that you make to the profession, that you make to the people of your state. In rendering that service, the very fact that you have acquitted yourself of the responsibilities of the office is almost a reward and a satisfaction in itself. Sometimes when things don't work well and go somewhat haywire in your county, just forget it, dig in a little harder, for the satisfaction of beating the game is going to be ample pay and remuneration for the time you have spent. You will find it so if you have the zeal and the interest in the activities that you are conducting through your County Society.

That is all I am going to say now, President Randall. A little later, after the two other papers have been presented, we are going to have a round table discussion. That is going to be quite informal. During the two talks that are presented to you, I wish each of you would make notes of things that have been bothering you, that you may have on your minds, and ask questions. We will tell how we have met those problems in each county and what we have done, and we will see if from this conference and round table discussion we can go away with something that will enable us to make our lives as County Secretaries a little more pleasurable. (Applause).

* * *

President Randall: Our Secretary made the statement that the contributions made by the County Secretaries are for the good of the medical profession. That reminds me of the classification made by the psychologists with respect to mental development. A child in first developing is egocentric, thinking only of itself. As it gets a little older it learns to play with the other children. As it gets still a little older it learns to work with others, and in the fourth stage it learns to think of the other fellow. That is the stage in which the County Secretary is. I was eight years a County Secretary, and I know some of the trials and tribulations. It is your contribution that you are making to one of the greatest professions in the world.

The next subject on our program is "Attendance: Are You coming to the County Meeting?" Dr. R. G. B. Marsh, of Tecumseh, will handle this subject.

ARE YOU COMING TO THE COUNTY MEETING?

R. G. B. MARSH, M. D.
TECUMSEH, MICHIGAN

The subject on which I have been asked to speak is one in which I am greatly interested. I believe that the County Medical Society is an exceedingly important unit in the advancement of Scientific Medicine. Even if the public does not know what is going on within the meetings, the members of the Society are at least given the chance to improve their knowledge and thus give better medical and surgical service to the public.

I do not know whether it is possible to get a group of medical men to answer "Yes" to the question heading this paper or not. I am still hoping to have a 100% meeting in Lenawee County some time.

I have been in practice for nearly five years and a member of my County Society since January 1924. There was only one meeting held in 1923 that I had any knowledge of and that came at the end of the year.

In January 1924 a meeting was held at the residence of the retiring President and the wives of the physicians were also invited. There was therefore a good attendance. An election of officers was held and it looked as if I had gotten in with a good group of men. I found out later that I had, but there was a general lack of interest as evidenced by poor attendance at the succeeding scientific meetings. The regular meetings were held in the Council Room of the Adrian City Hall. That room may be all right for what it is regularly used for but it was no place for a medical meeting. The meetings were held at irregular times and only 7 or 8 members came out. The place was not inviting and it was uncomfortable to say the least. It was an injustice to ask a speaker to come perhaps a long distance to give a talk in such a place at eight o'clock or later and then not even feed him. This condition continued for two more years.

In January 1926 we began a new method of conducting our meetings, by holding them in the homes of the members in different parts of the County. This method worked well that year, but toward the close it became very evident that a different method must be instituted because the attendance was increasing so much that there were very few homes of members large enough to take care of the men who were coming out. These meetings were of

course followed by refreshments and a social hour.

Since then most of our meetings are held in a hotel and start with a dinner at six-thirty.

I believe that the endeavor of every County Secretary should be to make the meetings of his Society so interesting that the members will learn to know their value and feel that they cannot afford to miss any if it is possible to attend. That gives the start on a standard to work by, but it is quite another thing to make each member see it that way. To bring about a successful year's work in even the smallest Societies it is important that we get away from the one man system. The first thing then is to have committees appointed, and the most important one of all is the program committee. These men should be from different parts of the county so that a more concrete idea of the type of subjects desired may be obtained. We decide on the subjects we want for each month and then we decide on the speakers. It is the duty of the Secretary then to get the speakers and spread them over the year. When this has been done the work is only begun. The next thing is to get the members out to hear the speakers.

Some sort of bait must be used to catch the interest of medical men as well as any other group. I have devised a few ways of enticing them to meetings that may be applicable to other County Societies, especially the smaller ones.

In the first place, give your members to understand that you are going to have a full program with meetings each month at the same time each month. Then impress them with the fact that this is a medical organization run along scientific lines. Give some of your own local members a chance to do some talking at the meetings by assigning them a suitable subject several months in advance. If you pick the right ones for this work it helps the man and it helps the Society as a whole. It is the duty of the Secretary to study the individual members and have programs that will appeal to them. In Lenawee we have only three men who limit themselves to a specialty, and we do not forget them in making out the program.

Arrange for at least four combined scientific and social meetings each year. This constitutes one lure. It is obvious that judgment must be used in choosing the place for these meetings.

One of these meetings may include the Ladies Auxiliary. The ladies are also in-

vited to the annual picnic and also to the annual banquet. The latter is always a non medical meeting. We obtain a speaker to talk on a non medical subject.

One very successful way of getting the news of a meeting spread around is for the Secretary to call a member in each town in the county and ask him to call every other man in his town. Explain carefully who the speaker is, the time and place of meeting and the subject. This applies of course to the smaller Societies like Lena-wee. It is an inexpensive method because four or five phone calls do not cost as much as 35 or 40 printed cards. The phone method also impresses at least one member in each town that there is going to be a meeting and by the time he has called three to five men on the phone and talked with them he also knows there are other doctors in his town and that promotes goodfellowship.

The written invitation is of course the most usual method of announcing the meetings but unless these are short and easily read the chances are that they will not be read at all. These may be simple post cards, return post cards, and I make a practice of sending out at intervals a more or less personal letter. After the invitations are sent out I make an effort to ask the different men when I see them at the hospital if they got the invitation and whether they will attend or not. Some of the answers I get are both amusing as well as gratifying. After the regular announcement of the meeting on the card or letter I add a few words telling what may take place after the formal meeting is finished. If it is to be a musical program, I indicate whether it will be the tinkle of glasses, the click of the red, blue and white discs, or the rattle of ivory or the clash of knives and forks. The personal letter takes a great deal of work on the part of the Secretary, but I believe it is worth it to send them out three or four times a year. These are made out as a form letter on a mimeograph and a space left at the bottom for a personal note to the individual to whom it is sent. Here I tell him that he has missed so many meetings and attended so many and what he has missed when he was not present. I outline the program for the balance of the year and end with a request for him to call on the phone some other physician and remind him of the next meeting. In this way every man receives at least one personal call from another member, as well as the letter itself.

Regularity in holding the meetings is

very important because soon the members get the habit of looking forward to hearing about the next meeting. A striking example of this happened last month in my own county. I had all plans made for one of the most important meetings of the year and then I forgot all about it. One of the members who had previously been one of the hardest men to get to a meeting asked me the day before the meeting where it was to be and wondered if I had forgotten to mail his invitation. I had all right, but the telephone method was put into operation at once and we had as good an attendance the next night as we have had in a long time.

I believe that the picnic meeting is an excellent thing. It may be held in July or August, but I believe the latter month is the best because then there is not too great a gap until the next meeting in September and that month is when the Society gets going again, and is apt to fall a little flat unless an extra stimulus is given to it. Not much bait has to be thrown out for the picnic because the ladies are always invited as well as any other guests desired, and every one is told to stay home if he feels formal that day. No shop talk is allowed and only first names are used in addressing one another.

In conclusion I believe that attendance at County Medical meetings can be increased by the following methods:

Hold the meetings every month at the same time each month.

Choose an attractive place for the meeting.

Have the meetings in different towns in the county. This evens up the distance the men have to travel. It also keeps the public informed of our existence.

Obtain the best possible speakers. The bigger the man the more quickly will he consent to come.

Have a dinner at each meeting. This is good for the speaker as well as the local men.

Have at least four combined scientific and social meetings.

Have the scientific program and the speakers published in the Journal at the beginning of the year.

Have an annual banquet with a non-medical program. Invite to this meeting some other professional group, such as the Bar Association or the Dentists of the County.

The Secretary, should, I believe, be one of the younger members and his term of office should be for at least two years.

Invite to one of your meetings each year, and see that he gets there, your district Councilor, the State Secretary, and if possible the State President. Also keep these men informed of your activities because they will help you when you need help most.

Last of all use plenty of different kinds of bait to lure the men to the meetings and then do not forget to show them a good time and send them home feeling that the effort to attend was well worth while.

President Randall: I don't want you to think I am a psychologist, but sometimes these principles that psychologists use are important for the rest of us. I don't know much about prayer meetings, but a farmer said that the best prayer meetings he ever attended he noticed were the ones he took part in. If you can get the members of your Society to do even little things, serve on a committee, or some other thing, using this principle of psychology, you can accomplish a great deal.

The next talk is "Securing Community Support," by Dr. Charles A. Neafie, of Pontiac.

"SECURING COMMUNITY SUPPORT"

CHARLES A. NEAFIE, M. D.
PONTIAC, MICHIGAN

The subject that has been assigned to me is a topic that has been much discussed among the members of the Oakland County Medical Society in recent years, and our members feel that much has been accomplished in developing support for the organized medical profession in Oakland county.

To secure community support there are two factors of the utmost importance, the first, that the members of the society take an active part in the life of the community, and the second, that the society arrange for suitable publicity, in order to furnish the general public with information regarding the activities of the society, and reliable information as to the progress of medicine.

The physicians of Oakland county have always assumed a leading position in all movements for the betterment of the community. The most common form of community service rendered by physicians, outside of their professional activities, has been as members of local school boards. Dr. R. Y. Ferguson, Pontiac, and Dr. Joseph Morrison, Royal Oak, had much to do with the establishment and development

of the modern school systems of their respective cities.

In Pontiac, in 1919, a member of our society was elected to serve on the Charter Revision Commission. This commission submitted the present city charter, which provided for a "Commission-Manager Plan" of government and which was adopted by the people of the city in July 1920. The new charter provided for a seven man commission, and at the general election held in November of that year, Dr. D. G. Castell was elected a city commissioner. Dr. Castell served a three-year term and was succeeded by Dr. L. A. Farnham, an active member of our County Society, who has since been re-elected for a second term.

In Royal Oak the physicians have been equally active. One of our members served on the Charter Revision Commission in that municipality, and later a member of the profession was elected to serve on the commission.

A considerable number of the members of the society belong to the Luncheon Service Clubs, located in the various communities of the county, and take a prominent part in the activities of these organizations, particularly those activities bearing upon the health and welfare of the people.

One of the most valuable contacts we have made has been with the Oakland County Bar Association. For a number of years past, we have been exchanging complementary meetings with this association. During the summer months a golf match is arranged between the lawyers and doctors, followed by a dinner. From time to time prominent members of the Bar Association have been invited to address the society at our regular meetings. The contact so far has developed a spirit of good will and mutual understanding, that has served to bring about a more friendly feeling between these two professions, and we feel that this contact has great possibilities for further development.

The work of our physicians in connection with the lectures given as a part of the Health Education Program, under the auspices of the Joint Committee on Public Health Education, has been of great value and it should be the aim of each County Society to encourage its members to take part in this important phase of health education.

It is the aim of our Society to have its members take a more personal interest in community activities, and we feel that the influence of the Society is being felt, be-

cause of the frequency with which our officers are called upon for their opinion, on matters concerning the public welfare.

Our members feel that one of the most effective means of securing community support is through newspaper publicity.

In an effort to make this publicity more effective, at the last election of officers the present Secretary, who happens to be the full-time health officer of the city of Pontiac, was elected to office. It was the feeling among the members of the Society, that the Secretary, through his official position as director of public health, and having frequent contact with representatives of the press, occupied a strategic position to aid in the dissemination of constant and authoritative information to the public. It was felt that as the Secretary, a public health official, was not engaged in private practice, he could carry on this work with more freedom than the average physician, the latter being handicapped both for time to give to the work, and by that section of the Code of Ethics relative to the advertising of the individual physician.

In Pontiac, The Daily Press, has been a big aid to the Society in their efforts to secure community support; calling the attention of the public to the activities of the Society, publishing announcements of our meetings with details of our programs.

Following our meetings we have provided the newspaper with a summary of the papers presented, together with such other information relative to the meeting that we think may have some news value.

In the final analysis, the support of the community toward the organized medical profession is dependent largely upon the physician himself. In many communities the public has lost faith in the doctor because of a false idea of his duty to the public—possibly because of a lack of sympathetic understanding toward the patient.

President Randall: There will be a good many points in connection with these papers that you will want to discuss. Your leader in the discussion will be Dr. Warnshuis.

Dr. Warnshuis: If each of you will write your expenses on a slip of paper and hand it to me before we adjourn this afternoon, I will have your voucher to reimburse you at the dinner this evening.

This evening you are to sit at the board of your parent, the State Society, as returning sons on a festive occasion.

This round table, as Dr. Randall has said, and as I intimated in the forepart of

the meeting, is the opportunity for us to secure information, to secure enlightenment upon things that may be in doubt, to discuss some of the problems you have in your community, and to indicate also to each other as well as to your state organization wherein and how we may be able to aid in solving the problems in your community.

I don't want to call on any individual to start this discussion or to participate in it except that I shall ask Dr. Knapp, who always has a fund of good ideas, just to break the ice and get off his chest anything that this meeting has inspired or any of the problems of Battle Creek, Calhoun County, that may be weighing upon his shoulders.

Dr. Harry B. Knapp: I have been much impressed by the scope of the papers we have just heard, particularly the first one which deals with methods of hanging out the bait to get attendance. In Calhoun County, since I have had anything to do with the Society, we have been working on this same problem. We have two sets of doctors in our town, those who practice downtown and those who are in some of the institutions in and about Battle Creek, of which we have quite a few.

The salient point in getting attendance, it seems to me, is to have an evening dinner preceding the meeting. Since that has been instituted, I notice that our attendance records have been better. We invite everybody, of course, to get in on these meetings; they don't all come. One dollar and fifty cents for the dinner looks pretty big to some, but the dinners at least afford a place for social contact, and I think more and more the men are taking advantage of the dinner meetings.

The programs begin at eight o'clock. A careful check is made on everybody who attends. I keep an attendance record just as strictly as an old maid school marm does of her children. I believe that is a very important thing. After a meeting, a letter is usually sent out to those who did not attend, telling them that we missed them. If we did not, we tell them that anyway; that gets under their skin pretty well. A good many of them feel that we really have missed them, at least we have noticed they were not there.

Some come and sit and listen; some come and sit. When they sit and we notice their chair is occupied, we give them credit for attendance.

The work of a Secretary is wheel-horse work; there is no question about that.

There is a lot of detail to it, there is a lot of calling up, there is a lot of writing letters, but I believe it pays. I have had a lot of satisfaction in getting contact with our men and in knowing that the County Society is a worthwhile place to go every month.

I have tried to render a little service to our Society also in the organization of a Bureau of Credits and Collections. I have felt that the ordinary commercial collecting bureau in a city does not handle doctors properly. I have felt that there are many people in every city and town who may pay their grocer all right, but they don't pay their doctor. They have to eat, but they can beat the doctor. They have a good rating on the commercial rating list, but they would have an awfully poor one if you looked at the doctor's list.

We don't know who these floaters are who go about from doctor to doctor, beating their way whenever they get a chance.

We have organized a bureau in our county, and we are undertaking to find out and list the kinds of people who are undesirable, not to keep them from getting service, but to find out who they are and then refer them to the poor commissioner for attention, where they belong.

Our bureau is simple. We get a collecting agency man experienced in this kind of work to undertake it for us as a sideline. He has put a man in charge of medical collecting in our county. He furnishes a form letter to send out, saying to the debtor: "After sending you several letters or bills we have failed to hear from you. If we do not hear from you within a week your name will be turned over to the Physicians' Bureau of Credits. There it will be listed with all the doctors in the county. We hate to do this, but if you will please let us know what you intend to do with regard to this bill, we will wait for an answer at least a week."

That collects pretty nearly fifty per cent of the hard bills. If they don't respond we turn it over to the Bureau of Credits, and they use their usual method of collecting.

This may be off the subject of Secretaries' work, but I feel it is a service to the men in the county.

There are some other lines of work which I hope to do sometime when I get around to them, but this is one of the outstanding things that I believe Secretaries can do. I believe this kind of work, with the exception of the collecting, could be

done directly through the Secretary's office if he wanted to do it and if he had a girl who could take care of a lot of detail work. We have turned it over to a special collecting bureau which is making a specialty of medical collecting.

The announcements sent out each month to the members are very important—the personal letter, the telephone call, the social features, the picnic, the ladies' auxiliary, all are attractive things, and if properly diversified through the year they are bound to make for better attendance.

Dr. Warnshuis: It is the privilege of your Secretary to preside as Speaker at the sessions of the House of Delegates of the American Medical Association, which is constituted of 175 of the best and keenest minded men of the profession in this country. One has to be quite alert in the performance of the duties of that office. There were 175 of those men up until last year, when it was changed. It is 174 men and one woman. California sent as one of its delegates a lady physician from Los Angeles.

During the sessions of the House I was somewhat disturbed as to how I might properly recognize her, and finally when the motion was made that the House go into executive session, I appointed her the sergeant-at-arms, and she officiated very efficiently. In the final hour of the House session, when the usual extension of thanks was given to the various individuals connected with the activities of the House, a motion was made that the lady delegate from California kiss the Speaker. Of course the Speaker did not recognize that motion nor put it, but to prevent our President, Dr. Randall, from experiencing the same thing, I am going to ask Dr. Florence Ames, who is the only lady doctor county secretary, of Monroe County, to tell us her troubles and what she is doing in Monroe. (Applause).

Dr. Florence Ames: I think people are the same everywhere in medical societies as well as in other activities. We have the same problems that you have. We have not done as well as Dr. Marsh has done in putting out bait to get people to come to meetings, but that is the great problem—attendance.

The people who attend regularly are the ones who suffer. I never go to a meeting and find eight or ten people there to meet an excellent speaker that I am not ready to die of embarrassment. The people who stay home never have that feeling; they are never embarrassed by the small numbers who come out to meet a good speaker. We think we have a fine town, and a great many of these people here have driven through Monroe; most of them have accepted invitations to come to speak; they do it quite willingly, and then when they come to our meetings and find just a handful, they are disappointed. It is the faithful few who do come who suffer the embarrassment.

I think we are going to try some of Dr. Marsh's schemes to get more people out.

We have a dinner meeting. We have a very nice hotel with a private dining room and an attractive place to meet, but we still have the problem of poor attendance. It is not because our programs aren't good.

We have never had an annual program. Our speakers talk on various fields of medicine, and the Program Committee works hard to get good speakers. The members of the Society know who is going to be there at least a week or so before the meeting occurs, but we do have the great trouble of poor attendance. I think Dr. Marsh has made a great many good suggestions for helping us correct those problems. I should be very anxious to hear more suggestions for getting people out to the County Medical Society meetings. That is our biggest problem everywhere. We have fine doctors and they are sociable when they do come, and they have a pretty good feeling toward each other, but they don't come.

Dr. Warnshuis: Let us have a spontaneous discussion of the problem in your counties.

Dr. Moore (Cadillac): Mr. President and Fellow Secretaries: I don't know whether Cadillac has the proper personnel in its medical society, but it does seem we have enjoyed a very good attendance and very active programs, both from the medical and the educational standpoints. I think there are several doctors in the room who know some of the activities of the doctors in our medical society. When the speaker this afternoon mentioned the community side of the medical profession, I just ran over in my mind some of the positions our local physicians have held in our community. I have been on the school board for twenty-five years and have been Mayor for six years, and one of our doctors has been health officer. Another doctor has been president of the Rotary Club, another has been president of the Izaak Walton League, and we have held about all the offices there are in the city and in the community. Being a member of the City Commission, besides being the Mayor, that throws one in with the Board of Supervisors, which enlarges one's acquaintance in the community and makes it a county matter.

One of the strongest things I think we have had in our Society to hold our members together has been our county contract for the indigent poor. I have answered many letters and questions in regard to it

from different societies over the state. I think it has been a wonderful thing to hold our Society together.

We have a Tri-County Medical Society made up of Missaukee, Kalkaska and Wexford Counties. Our county contract for the indigent poor is for Wexford County. This is taken at our regular price for the year, and the doctors are rotated monthly in the territory in the city, and the country is assigned to the doctors in the country. This gives something in return. As long as they are members of the Society they are entitled to compensation for taking care of the indigent poor of their territory, and when they get their little check every three months, as they do, it sort of keeps them in touch with the Society.

I don't know whether we have had the most successful plan in meeting at our hospital. As you know, our hotel is under construction at the present time, which has thrown us out of a meeting place for a year. We have been holding our meetings during that time at the hospital, with a six-thirty dinner and a staff meeting afterward, with hospital reports following, and reports of cases. Whether this has grown stale or not I don't know. We think sometimes that we might accomplish more if we could get back in the hotel again and get away from the hospital and away from a little of the routine in the hospital reports and the reports of cases.

I guess those of you who work in hospitals know there is just about so much red tape, and it takes just about so long to get anything done. The time is spent and an hour is gone before you know it.

As soon as our hotel is completed we will get back into the plan of holding our meetings with a six-thirty dinner at the hotel, and then featuring three or four meetings at the hospital with a clinic.

We are situated nicely for calling on outside physicians, and we have had doctors from Grand Rapids and Ann Arbor and Battle Creek visit us several times during the year.

I always send out a return postcard, and I send a private letter as often as possible. I always have my girl telephone. I think we have a very good attendance. Of course, we have a small society. Whether the same thing would work out in a large society I don't know. We have a good attendance for a small society.

Our men enjoy your conferences, and I think our Secretary will bear me out when I say that we attend about as many of those conferences in Northern Michi-

gan as any society. You can usually bank on Cadillac being there six or eight strong.

Dr. Addison, Grand Haven: In most of the County Societies is the Secretary-Treasurer allowed to disburse money by check without a counter-signature of the President, or should he have that counter-signature?

Please, also, tell me something about honorary membership; I particularly want to know if the Society offers honorary membership to those who are eligible, or if the man who is eligible asks for it.

Dr. Warnshuis: Answering your first question, Doctor, that is a custom of the County Society relative to disbursement of funds. It is a provision, as a rule, in the by-laws. A number of years ago we had a model County Society by-laws adopted by most of the County Societies in Michigan, and it provided that the funds of the society should be disbursed upon approval by the Board of Directors by the Secretary. The Secretary collected the funds, and when he received bills he presented these bills to the Board of Directors and they ordered them paid, and he issued his check signed by himself.

I think it is just a lot of old fogey ideas to make the Secretary secure one, two or three counter-signatures upon any voucher for the expenditure of funds. As a rule, the money is not sufficient to make one desire to abscond, and secondly, the individual is usually honest when he is a Secretary because he couldn't be a Secretary if he were not honest.

As far as honorary membership is concerned, there is a definite provision in our Constitution and By-laws. Honorary membership may be conferred in the State Society by action of the County Society recommending a given man to honorary membership, and after having taken that action, they report that name to the Councillor of their District. The Councillor of the District then brings the report in at the annual meeting of the Council, which is transmitted to the House of Delegates of the State Society, and the House of Delegates of the State Society elect him as an honorary member of the State Society. You can have an honorary member of your County Society and exempt him from paying his county dues, but he can not be an honorary member and exempt from paying his state dues until the State House of Delegates has taken action.

If you elect him as honorary member of your County Society and continue his membership in the State Society and mem-

bership in the A. M. A., you must still remit his annual dues of \$10.

The requirements are twenty-five years of practice.

Dr. Addison: Must he be retired from practice?

Dr. Warnshuis: No. He must not necessarily be retired from practice. The only limitation in the State Society provision is that only one honorary member can be elected from each Councillor District each year.

Dr. Knapp: Is there provision for associate membership? We have in our community quite a few doctors in the Government hospital there and in the sanitarium, laboratory men, and so on, who are not registered physicians; they are graduate physicians, but they have not paid attention to becoming registered in the state. Can they be made associate, or is there a classification especially for them?

Dr. Warnshuis: Regarding associate membership, the County Society, as you know, is the only door of admission to the County Society, and the American Medical Association. The autonomy of the County Society has been held inviolate in that they are the judge of the men who are to be admitted to membership. In the adoption of your County Society Constitution and By-laws, you can provide, as some of our County Societies have done, for associate membership. Wayne County has quite a large list of associate members. One or two of the other counties have a similar associate membership. There is, however, no provision made in the State Society that an associate member of a County Society becomes affiliated with the State Society as an associate member.

The only thing, however, is that the man in the government service is permitted under the laws of Michigan to practice in Michigan without securing a license in the state of Michigan; because of that waiver he can be made a full member of your County Society and can maintain his affiliation with the state and the American Medical Association by being elected to membership, even though he is not a registered physician.

President Randall: Many of the hospitals in the larger cities have three or four, five or six, depending upon the number of internes. I think it would be well for each County Secretary to be especially solicitous about getting the young men to attend their County Medical Societies. That is a work that all of you should look after.

If they are as poor as I was when I was up at St. Mary's, they would appreciate the courtesy extended to them, and I know those men will be members later. We want them, because those are the men who are in good training.

Dr. Woodward, Detroit: I might mention specifically the way Wayne County handles its internes. These young internes from the various hospitals in Wayne County are given a membership in the Wayne County Medical Society free of charge to the internes, as an encouragement to bring them into the Society later on, or, if they don't happen to be settled in Wayne County, so that they will be encouraged to join the various county societies wherever they may happen to go.

Nothing is charged the interne, but in some cases the hospital authorities pay the small fee.

I don't like to let this opportunity go by without telling the members how interested I have been in listening to some of their problems and also stating that when you get down to brass tacks the problems of a large County Society and those of a small County Society are, with very few exceptions, just about similar. The big bugaboo simmers down to the attendance problem. I doubt if our percentage of attendance is any better than your small County Societies have.

It all gets back to the statement made previously, that we are all brothers under the skin, and if you want to get the men out (and this refers particularly to the male members of the profession) just feed the brutes.

One of the most serious problems confronting the larger societies of medical centers is the endeavor to combat medical service by institutions. We are in the throes of that in the city of Detroit. There is no question but that this problem becomes more or less acute, depending upon the size of the community in which you practice. It seems to have simmered down to a battle between big business and small business, the small business being represented by the general practitioner, the man around the corner, and the big business being represented by various state institutions that are being run as the result of foundations that have been endowed.

Probably the most constructive way to carry on a campaign of this sort is to organize. I was very glad to hear the gentleman from Cadillac mention the way they have been handling the indigent poor up there, evidently by zoning the county in

some way or other, and having the indigent poor work done by the profession and having them remunerated from the county or state.

In other large cities they have been able to zone their cities, and a great deal of the indigent work has been handled by the profession, for which they have had remuneration.

In the larger centers, as I see it, there is no question but that private practice has been encroached upon a great deal by the various large institutions which I have mentioned. The evil has not stopped there, but it has been extended to some of the larger hospitals. For instance, in the hospital of whose staff I happen to be a member, there is the proposition of taking people in for a flat rate. In other words, it all simmers down to the hospital itself practicing medicine in competition with the individuals who bring their patients there.

As a very specific instance, up to a couple of years ago this hospital had inaugurated (I don't know who inaugurated it) a flat fee of \$75 for which anybody could come to that hospital and be confined. That included their pre-natal care, the delivery, and ten days of post-obstetrical care. There is a lot to be said both for and against that, but when you come to consider that all the good obstetrics are not practiced in the hospital, that you men from out around the state do your obstetrical work in the homes, and when you come to consider the number of young men turned out every year from the University of Michigan and our college here and that \$75 for a confinement would look mighty darned good to them, you can see no particular reason for a hospital to give that service. They say, "Well, a patient can't afford to pay any more than that, or they can't afford to pay any more than \$50."

If a patient can't afford to pay for this service, why should she be entitled to it unless it is an indigent case? If they are indigent, let the various welfare societies care for them. I feel if there is \$50 or \$75 to be spent for an obstetrical case, it ought to go to the young fellow around the corner.

One of the problems we have now in the Wayne County Medical Society is organization. We have 1,400 active members. I am proud to say there are only about 100 delinquents. Out of those 1,400, you would be surprised how many small groups and how many differences of opinion arise on certain problems. Therefore, we are try-

ing right now (and I believe this thing is going to go across) to secure a full-time Secretary or manager, or whatever you may wish to call him. One of the chief duties, in my estimation, of this full-time Secretary will be first to organize the Society, in other words, start right at home. You can't expect to get anywhere unless you can present a pretty solid front. Then it will be the duty of this man to be a sort of go-between, a buffer, between our municipal authorities and the County Medical Society. I hope to see the time in Wayne County when there will be no health problem submitted to our Council or county authorities until it has been ratified and o.k.'d by the Wayne County Medical Society.

This same problem will confront you gentlemen in the smaller communities less acutely, probably, but we hope if we can put this across, as far as establishing better relationship between the profession and the various civic bodies with which we come in contact, it not only will be a help to the state organization, but to the various smaller County Societies throughout the state.

Dr. Warnshuis: I should like to supplement a little what Dr. Woodward has said. The problem of state medicine is stupendous, one which has engaged the attention of the profession more or less acutely in the last ten years.

There is no answer that we can make to it direct except that of organized activity. When we exercise organized activity and present our side of the question I have no fear but that justice will be done. We have to manifest our organizational activity, just as Dr. Moore in the Tri-County Cadillac District has done, just as Wayne is now awakening to, just as some of the other societies are also doing.

We know that some of this work has been the result of the enthusiasm or efforts of health commissioners, paid health commissioners of communities as well as the state. When the change of office was made in our State Health Commission two years ago, the Council had an interview with the Department of Health, and a working agreement was arrived at. The State Commissioner of Health now does not promulgate any rule or institute any activity in the nature of the practice of medicine without first discussing it with the Council of the State Society. We are sitting in on the activities of the State Department of Health.

What your State Society is doing as far

as the state as a whole is concerned—similar function should be exercised by the County Societies, as Dr. Woodward has said. You can control the situation. It only requires, as Dr. Woodward has said, organized activity and an organized front and organized representation, and you can dictate instead of being dictated to.

The problem of the hospital practice of medicine is becoming extremely acute, especially so within the last year or two, and especially so since the movement that was instituted by the American College of Surgeons. The American College of Surgeons started what I believe was a most pernicious move, in writing and communicating with the hospitals of our country, asking them to set aside a department in the hospital to which the public may come and receive a periodic physical examination at a flat fee, conducted by the staff, who are to be remunerated by the hour. If you read the Journal, you have probably seen that we opposed that. We registered a vicious protest against promulgating such a move, causing or inspiring hospitals to practice medicine.

I know, when the matter came up to our hospital in Grand Rapids, the Executive Committee of the staff caused our Board of Trustees to rescind a motion or an action whereby such a function would be performed and rendered to the public of Grand Rapids by that particular hospital. We held that the place for the individual to go for his physical examination periodically was the office of his own private personal physician, for which he pays. That is an action that I think we should sustain, and this attempt on the part of institutions to practice medicine must be combatted by the organized effort of the County Society, because, after all, fellows, you and your fellow members are the ones who constitute the staff of that hospital, and that hospital cannot render that obstetrical service or the examination service or any other service without your support.

While it is true that we have here and there in the profession certain individuals who seek for self-aggrandizement these positions, and are willing to render that type of service, the influence that you can exercise upon these men is going to enable you to prevent such a movement being started, but it indicates again why your State Society, your County Society, must be alert to these things, alert to these problems.

As big a problem also is the problem of the clinic. We have in Kent County that

same problem to contend with. We believe now we are making some headway along that line. It is a field of organized activity that is the responsibility of each individual state and county society.

Dr. Hume: I have discovered that a new light has come to the Secretary of our State Society that came to me quite a long time ago, and that is that our own organizations (I am not speaking now of the Michigan State Medical Society, but of our own organizations) have done much to throw the monkey-wrench into the gears. The thing he speaks of with reference to the American College of Surgeons is one of the most vicious things that has been done. It is not the only thing that has been done, but they have grown big and reckless and have shown their hand.

There is no question that while we have problems outside to contend with, we have some very serious problems inside among ourselves, and that is one.

I was Secretary of the Shiawassee County Medical Society, I think, about 1892. We had the same troubles then that we have now. We had the troubles of keeping up an organization, making the meetings productive of results by means of securing attendance and interest in the matters that were discussed.

More and more I have come to look upon the Secretary of the County Medical Society as the one most important individual in the whole organization, because he (or she) is the means of contact between the organization (I am speaking of the organization not as one that is to consider medical matter, but organization matters) and the public represented by the members.

As our state organization is now formed, we have a president who has nothing to do with the operating of the State Society in particular. About all he has to do is to sit there and smile and wear the tin crown while he is still the president, and then he strikes the toboggan slide when it is time for him to do that. I know when my friend, Dr. Randall, strikes the toboggan slide he will make a most graceful descent and then go way back and sit down, as a few ex-presidents of the State Society before him have done.

The Councillors bear the same relation to this Society, we will say, that our congressional organization does to our state government. The contact that the governing organization has with the members is through the County Secretary; it is not through the president of our County So-

ciety nor through any members of the County Society.

There is another point to be taken into consideration. Usually in our County Societies, if you get a good Secretary you keep him and he becomes familiar with the work. He should have the opportunity to become thoroughly familiar with all of the organization work and act as a means of contact between the Society and the members of the Society and the organization itself. It is a most important place.

I wish to say now that you who are Secretaries have to deal with the most important and most constructive work of the organization known as the Michigan State Medical Society, and also the welfare of the profession in the state.

Dr. Warnshuis: I hate to raise the question of dues, but I do want to raise it in order to make an explanation. It is true that our dues are \$10 a year. Two dollars and fifty cents of that is appropriated to the medico-legal defense, \$3 to the Journal subscription, making \$5.50, and leaving \$4.50 to defray the organizational activity of your State Society.

To some of us, dues of \$10 amount to but very little. We would readily spend that amount for a poker game in the evening, or shooting the ivories, as Dr. Marsh has said. To other members \$10 is a lot. The inquiry comes from them: What do I get for my dues?

We usually tell them that the reason they don't know what they are getting is because they are not attending the meetings of their County Societies, nor are they reading the Journal of the Michigan State Medical Society, because if they were they would know what they are receiving in return for their dues.

At a meeting over at the Gratiot-Isabella-Clare County Society about a month ago, after making a talk on dues, one of the members there said that knowing now what the state organization was doing, he was very willing and eager to raise the ante, and he suggested that while he did not smoke, each of the members could lay aside a nickel a day that buys a cheap cigar, and turn that in as their annual dues, which would amount to a little over \$15 a year.

I agree that there are some who find the dues of \$10 burdensome. We have been thinking on that subject for a long time. I am hopeful that I am going to see the days when our dues, instead of being raised, can be reduced. Yet in returns we are getting a larger dividend from our \$10

invested for our membership dues in our State Society than we are for any other \$10 that we invest.

In order to make it possible for some of the men who find this a financial burden to carry on, two years ago by action of our House of Delegates and also the Council, your State Secretary was instructed and authorized to organize what is known as our Michigan State Medical Society Endowment Foundation. At present our State Society is incorporated under an act of our legislature that authorizes the incorporation of bodies for scientific purposes and not for profit, but limits their net capital or net investment to \$50,000. The Michigan State Medical Society is a growing concern. It needs for these various activities and movements that it is promulgating, a working capital of a considerable amount, but we cannot increase the dues. I feel they should be reduced.

The solution that we are seeking is this endowment foundation, to which we hope to secure endowment contributions to the extent of \$250,000 or possibly \$500,000, given and so arranged that that endowment capital or principal sum will remain intact in perpetuity. Under that plan that endowment foundation has been incorporated and turned over to one of the large trust companies of this state.

I am not privileged at the present time to tell you of the contributions that have been made to that endowment foundation. Some of them are in wills; others are in the form of life insurance that members have taken out in which this endowment foundation of the State Society is the beneficiary. In that way, after we get to a certain amount, we hope to branch out among some of our wealthier lay individuals and give to them tangible evidence of the work that has been and is being accomplished for the good of the people by the Michigan State Medical Society, and secure outside contributions so we can have a fund of a quarter or a half million dollars invested in good securities that will yield on an average of 5, possibly 5½ per cent, which will give us an annual income of somewhere in the neighborhood of \$30,000 to \$40,000, which will enable us to carry on the work of our state organization. When that foundation has been completed and that investment made, I think then we can reduce our state dues to a minimum.

The thing we are stressing in this foundation is that the man's money is invested

in perpetuity, for all time, long after you, your children and your children's children are gone; this capital will be intact for medical and public education and to conduct the affairs of the state organization.

At the present time we can't reduce our dues. I am hopeful that possibly in a few years we may attain that goal. At the present time we must make these solicitations somewhat privately, and while we hate to have our members die, after a while when they do, as we eventually all must, the Society will benefit from it, and then posterity, if not we, will have reduced medical dues.

Our expenses are necessarily large in some respects because we feel that we are not compensating men for the time that they are giving, although we are endeavoring to defray the actual expenditures of money. Assistants who must necessarily be employed are increasing each year as these activities extend. We cannot get paid help for nothing. That is the only hope or cheer that I can give you to take back to your members, that sometime in the near future we will have a capital endowment, we hope, that will enable us to reduce the dues.

Dr. Louis LeFevre: Will you tell me how much of our dues go to the American Medical Association?

Dr. Warnshuis: Not a cent. You become a member of the American Medical Association by reason of your affiliation with your State Medical Society, but do not become a Fellow of the American Medical Association until you have remitted to the office of the Secretary of the American Medical Association the sum of \$5 a year, and for that \$5 you become a Fellow and receive the Journal of the American Medical Association. No part of your state dues or funds goes to the American Medical Association.

Are there any other questions, or does anyone have any problems to bring up?

Dr. Ward is the pioneer secretary in Michigan, I think. When I was a weakling secretary he was a wheel-horse.

Dr. Ward: I have been waiting for Dr. Hume to get this off his chest because I am always willing to wait for him to take the lead. I follow him as well as I can.

There are three or four things I should like to have discussed. One is what success you Secretaries have with joint meetings. We have had joint meetings with the hospital staff. The staff is a separate organization from the County Medical So-

ciety. For one year we attempted to hold joint meetings in the evening. They did not prove satisfactory to some of us.

I understand that in Flint they have had the same experience with joint meetings and are now divorced from the staff of the Flint hospital, the same as in Shiawassee County. After one year we decided to have our own separate meetings. I think it was two years ago in Grand Rapids that I stated to the meeting that we were not sure whether the dog wagged the tail or the tail wagged the dog; first one was up and then the other, so we see-sawed on these joint meetings.

Now we are holding the staff meetings every Friday noon at a luncheon. I understand there is a feeling that they would like to give up one meeting a month and have a noon meeting with the Shiawassee County Medical Society. We are in the habit of holding our meetings in the evening. One year we held them in the City Hall auditorium. That year the meetings were not so well attended as when we held them at the hospital. After the new nurses' residence was built, where they have a nice auditorium in the basement, we began holding the meetings there once a month in the evening.

I should like to know if any of the counties have had any experience in holding joint meetings, and how well they succeeded. Some County Medical Societies hold their meetings in the evening and some at noon.

Shiawassee County has been reported as being back of a movement to ascertain whether the law requiring registration of births without a fee was constitutional. Some of you may have noticed that statement in the public press. I can assure you that the Shiawassee County Medical Society as a society never took such action.

In December there was a motion made in the meeting that the Society stand back of one of our members who had been arrested twice for failure to report a birth. The first time he paid the fine, and the second time he proposed to fight it.

This motion to back him up in this suit was not supported. It was laid on the table and it has never been taken up since. Although a great many of the physicians of the city attended the trial, that suit has not been settled.

Yesterday I called the prosecuting attorney and ascertained from him that it would not be decided until the 27th of this month.

I say this to correct a wrong impression

which I know has gotten out. I never attempted to chase it down because when a report like that gets started you can't chase it down very well.

The Gorgas Memorial representative was the speaker of the evening at one of our Medical Society meetings, notwithstanding the notice sent out by our State Secretary to the effect that the Council had disapproved of the action and the work of the Gorgas Memorial in this state. I can explain that. The President of our Society was solicited by a representative of the Gorgas Memorial who wished to be allowed to attend and address one of the meetings, which was about the time they were to make their appearance at the hospital. Our President did not consult me. I don't know that he knew the State Council disapproved. I was not notified and did not know anything of it until the meeting had been announced.

Dr. Hume stated he had been Secretary a few years before I was. Unfortunately, every year I have said that I did not choose to be Secretary again. I was first elected in 1914, and I have never been able to get out of it yet.

I approve of Dr. Marsh's suggestion, namely, that two years be the limit of any Secretary's service and that he be a young man, and I amend that by saying, or lady.

Dr. Hume has spoken of the necessity or the probability of a Secretary after long service becoming accustomed to the work. That is true. I think there is one satisfaction in the work of being a Secretary that is very much like preparing a paper. It does the man who prepares the paper more good, I think, than any one individual who hears the paper read. It is the same in preparing good minutes of a medical meeting. It does the Secretary more good, probably, than any one who hears the minutes read.

In my early days as Secretary, there was a doctor in a neighboring town who never had joined our Society. I labored with him at different times to get him to come in. He couldn't see anything to belonging to our Society. Later when he moved to our city he became a member. One of the most satisfactory things I recall in my work as Secretary is that this same doctor was one of my most devoted admirers and always complimented me on my minutes. Unfortunately the brother has passed on to the Great Beyond and I can't read the minutes to him any more.

This concludes my broadcasting; please stand by. (Laughter).

Dr. Warnshuis: Dr. Chambers, you have done some excellent work over in Genesee County and you have had this hospital contact with County Medical Societies. Will you tell us about it?

Dr. Chambers: We have our county meetings twice a month. We have a plan there which I think is very good. I have not heard it mentioned, although I presume other counties do it.

We meet on Wednesday noon because on Wednesday afternoon very few of the doctors are in their offices, and we can have longer meetings. We probably have more attendance than we would have at any other time. The meeting lasts from twelve until one-thirty or two o'clock in the afternoon. We get a very good luncheon for a dollar.

I think an important thing to get good attendance at the meetings is the type of speaker you have. Our speakers who are very good draw larger crowds than others. We have a speaker from out of town for each meeting. We try to divide the program up among the different specialties. Of course, most of the speakers talk on general surgery or medicine, but we do have some specialties as often as we can.

I think what has been of great advantage to us this year has been the establishment of our bulletin, which is issued monthly and which announces the meeting and is received by the doctors a few days before the meeting. We announce the meetings through the bulletin, and we also announce the program that is going to be held. Then we have an abstract of the previous program, and the Secretary's minutes are published in the bulletin. Besides that, we have a few editorials, and so on. That is sent to every doctor who belongs to the Society.

We try to spread a little propaganda about attendance and post graduate clinics, and so on. I think that works out nicely, especially because it relieves the Secretary of a lot of work.

Our hospital staff meetings are separate. We have those once a month, and they are held in the evening. At those programs the local men present cases that they have had in the hospital. Often the internes present the cases. While they are not attended quite as well as the County Society meetings, yet we have a very good attendance at those meetings.

I think a medical society should meet twice a month. I think you will have a higher percentage of attendance than if you meet only once a month, because it keeps up more interest. If you could pos-

sibly issue a bulletin, it would help a great deal.

Dr. Warnshuis: We have a little over 300 members in the Upper Peninsula. The geographical location of that portion of Michigan makes contact with these fellow members very difficult at times, but I am very glad that we have represented today a couple of the counties from the Upper Peninsula. I wonder if Dr. Redwine, of Luce County, would let the boys know how deep the snow up at Newberry.

Dr. Redwine: The question I want to ask is how a fellow can get rid of this job when he once gets it. Before I came to the state I had the pleasure of having this job for eight years in the Missouri Medical Society, and I thought when I left there I left the job. Just as soon as I landed in Michigan I took it up again.

I guess we have the smallest society in the state organization. We have 100 per cent membership and ninety per cent attendance at each meeting we hold, which is probably as good as you will find anywhere. That is due to the fact that one physician always has to remain on duty at the hospital, otherwise we would have 100 per cent attendance. There are ten members and they all attend but one who has to stay on duty.

We solve the problem of the meeting simply by designating one individual and saying to him: "You are going to take care of this meeting tonight. You and your wife are going to furnish the dinner." We load in our cars and drive to his house at six-thirty, and he is afraid not to have something ready. As a result we have a good dinner. After that we have our program, and we always find it convenient to tell the lady that undoubtedly that was the best dinner ever served to the County Medical Society. When we are ready to pass on to the next one, she wants to outdo the other. For two years we have got by with that. I may have to get something new, but it has worked for two years.

In addition to our other duties we have taken on the Upper Peninsula Medical Society, which is a local organization founded, I think, by Dr. Hornbogen of Marquette. It has been meeting for thirty-one years. This is the thirty-first annual meeting. The Luce County Medical Society has agreed to take care of this meeting on August 1 and 2. If you folks will put on your old sunbonnets and bring your fishing tackle, we will be glad to have you come and see us. I think the snow will all be off.

Dr. Warnshuis: Dr. Frankline, of Gogebic, is here, too.

Dr. Frankline: Gogebic County is the farthest possible county from Detroit. It is at the point where Michigan almost touches Minnesota. It is famous mostly because it borders on the Wisconsin town of Hurley that you have all heard about.

This very geographical situation causes our greatest difficulty as a County Society. We find that our men turn out very well and are highly interested if we can get outside men of known ability to come up there and talk. We are so far removed that the expense of anybody coming from Chicago, Milwaukee or Detroit is out of the question. We often hate to ask them and we can't always afford to pay their expenses. That is our problem—how to get men up there who are willing to go at their own expense or to raise the money to pay them.

One thought suggested itself to our members, that we take a vacation in winter and have our meetings throughout the summer when many of the men from Detroit, Milwaukee and Chicago might be willing to drive up and make a little vacation trip out of it. We may put that through. I don't know how it will work.

Our men are interested if we get a good outside speaker, and they will almost all turn out. Our physicians are in the majority contract men, mining doctors who do both surgical work and internal work. That, of course, raises the question that was raised here a little earlier in the afternoon about the necessity of fighting social medicine. There is one thought that always comes to me in that connection which I am going to spill at this time and then sit down. One big feature of social medicine that is particularly objectionable is the interference of the laity in the practice of social and state medicine. If social and state medicine were entirely in the hands of physicians and controlled by them, I don't think it would be nearly so pernicious. Why, then, shouldn't the physicians make it a point to take more interest in the organizations that are formed, and serve on their boards of directors and control them? I have been more or less in public work myself and on a public salary a good part of my life, but being the son of a physician to whom ethics was a religion, I have always tried to hold up that end of it. I have been impressed by this fact very strongly, that the pernicious things that are done by lay health organizations are due largely to the fact that the physicians will not take any interest in them. In organizations in which they do take an interest, in various

tuberculosis societies that I have intimately known, where four or five physicians of the community have taken an active interest and served on their board of trustees, in child health associations and other lay organizations of that kind where the physicians have shown an interest, they have not gone very far off the track, because the presence of one or two physicians on any board of directors or in any organization, who will assert themselves and express the view of the physicians of the community, will usually dominate the situation by their very presence, and the laity will, as a rule, not go against their wishes and their opinions.

I think one of the ways to prevent social medicine from going into obnoxious channels is for the physicians to take a more active interest in these organizations which will continue to form, no matter what the medical profession may do.

Dr. Warnshuis: The function of the Council has been commented upon by one of our ex-presidents of the State Society, Dr. Hume. The Council is an active, alert body, amalgamating the interests of the various districts of the state. The time that they devote is considerable. The work that they do is not often recorded, nor do they very often get credit for what they do; yet their work is active, their work is essential in the organizational scheme under which we administer our affairs.

We have a few of the Councillors here. I wonder if Dr. Cook, representing the district from Genesee County, has something to say.

Dr. Cook: There is one little message that I want to give some of you men in the smaller communities where it is difficult for you to get a speaker, that is, a speaker who doesn't require very much expense to get there.

A few weeks ago I attended a meeting at Shiawassee County, and at that time they had a moving picture film of Kanavel's book. I have read Kanavel's book, but I don't believe I got it so clearly as I did through that moving picture. I think it was one of the most profitable meetings I ever attended.

This film is available at the American Medical Association. I don't know just exactly whom they get it from, but one of the members of the Shiawassee County Society say it at New Orleans. Dr. Ochsner of Chicago was there, and showed it.

I don't believe there is a County Society in the state of Michigan that can afford not to show that picture. It builds up the hands, it builds up the structure, it shows the different parts and the method of the traveling of infections from the point of entrance to other parts of the body. Men

who are dealing with infections in industrial surgery realize how valuable it is to know the exact processes and changes that take place and the methods of properly handling those things. I think I cannot impress that upon you too much.

The film is just about long enough to show at one meeting, and it is certainly one of the best things I have ever seen.

I have been greatly interested in your problems. I can readily understand them because the Secretaries of the different societies are constantly bringing them to the Council.

I believe one of the biggest problems I have had as Councillor is what to do when the member of one society wants to join the adjoining society in the same district. Usually it happens that it is the member of a small society who will ask for transfer, a society that can little afford to spare that member. Two members of Clinton County wanted to join Shiawassee; they are right on the county line. They have had a hospital at Shiawassee longer than at Clinton, and some of the men feel there will be a little better fellowship and acquaintance with the other society. That is one problem we have had to deal with. So far they have been unsuccessful in joining the society that they wished to join.

Dr. Chambers spoke of the matter of meeting twice a month, and he thinks the society should meet that often. I was talking with one of the members of Ingham County and he said their problem had been too many meetings; they had their county meetings twice a month and then their staff meetings, and very often the men who belonged to one staff belonged to two, and it got burdensome. They are meeting twice a month now and putting on one good, large meeting once a year, I believe. They are getting a better attendance in their county society meetings that way.

I think there is a danger that may develop in places where you have members who are on two staffs and have to attend two meetings. You can't overdo the matter and have too many meetings. The right number of good meetings is much better than too many or too few meetings. I think there is great danger in too few meetings, though, rather than in too many.

I certainly have enjoyed listening to you men, especially Dr. Hume. He has been gumshoeing around ever since I can remember, and very successfully.

Dr. Warnshuis: In regard to the film that Dr. Cook mentioned, I exhibited that film in a couple of our County Societies in Michigan. The rental of the film is \$15 a day, so you see you

are running into an expense account right away.

The purchase price of the film is \$150. It has three reels and runs about twenty-two minutes. It is a very splendid film. That opens up another avenue that is not being overlooked by your State Society, whether or not your State Society can organize a library of these films available for the County Societies. The original expenditure for the films would not be so much, and they could be sent around. The problem is the projector to show the film, which is \$250. Moving pictures are becoming a little more common than they were a few years back, and I am going to start an inquiry to ascertain in our various counties how many such projectors are available, and then, Dr. Cook, if the feature seems to be one that can be so solved, I am going to urge upon the Council and the House of Delegates that the State Society provide such a teaching library of moving picture films for our County Societies.

The program and attendance were the answer given in the questionnaire that I sent to you at the first of the year as being the outstanding problems of the County Society.

You have discussed attendance and we have discussed it with you. We still have to continue to discuss it, but the solution is only by being everlastingly after the members, as Dr. Marsh suggested.

The program must be interesting. As the doctor from the upper border of nowhere says, to secure men to come to the meeting and address perhaps ten, twelve, fifteen or twenty, entailing a large traveling expense, is a burden and cannot be borne by every County Society. They have to depend, to a considerable degree, upon the members in the County Society. In some respects that is a good fault, because it is only as we appear before medical meetings and read papers and, as Dr. Ward has said, contribute, that we become at all proficient, that we become better practitioners.

We develop speakers. We watch the speakers that are being developed in the various parts of the state, and we are recommending them to other County Societies for their programs. It also is the intention of our State Society within the next year to organize a speakers' bureau through which we will make men available to you, and give you their subjects, so that you may secure them for your County meetings to solve this problem of program difficulties.

You see we are not unmindful of those two outstanding problems that confront your County Societies.

We have another Councillor present, Dr. Urmstrom, who represents the base of the thumb.

Dr. Urmstrom: My object in coming here today was to listen to the problem of the different societies so I could help my own. I happen to be the Councillor of that District, and I have quite a little to learn about the duties of a Councillor.

Several things have come to my mind today as problems of the County Secretary. Several men spoke of the length of time they have been serving as Secretaries. We have a very efficient Secretary in our Society of Bay County; he is present today.

We have two meetings a month, and the attendance is high. I think we have one of the best medical societies in the

state, both with regard to the attendance and the number of speakers we have. During the past several years practically every speaker has been an outside speaker.

I think the Secretary should be re-elected year after year, because he knows the duties of the Society; and he also should be a member of the Program Committee. We have a Program Committee appointed by the President each year. We have one that has become so efficient that we repeat it every year, practically. They know how to go about the business, they know how to have good meetings. After each meeting the Program Committee arranges a social meeting, which stimulates interest, and as a consequence we have had some very high class men this last year.

Another point which enters my mind, which is a duty of the Secretary and which I think we should change, is this: Each year we send delegates, according to the number of members, to the State Medical Society meeting. As you know, very few members of your Society attend the state meetings and know what is going on in the state. I didn't attend when I first started to practice, because I couldn't afford to. In later years after I got interested in the meetings, and after having attended one, I didn't miss a meeting.

The House of Delegates are men sent there each year, without knowing the duties they are to perform. I find in the State Society each member has something to present, and the material going through the different committees and presented to the House is cut and dried and is not explained to the members, so they do not know what is going on.

I think it is a good idea to pick out a man who should represent your Councillor District, to attend that meeting each year so he can know what is going on and can have a voice in the proceedings and report back to your County Societies. The first year I attended I didn't know what was going on, I didn't know the duties, until I happened to hear something come up, and then I wanted to ask questions. My great fault is to ask questions and to try to find out what is going on.

I think it is the duty of the County Societies to know what is going on in the State Society and what your Councillor is doing in your State Society, and then to report those things to your members.

You have just heard that our Secretary of the State Society has new duties. The work of the editorial end has been taken out of his hands. Part of his duties this

next year will be to visit the County Societies. There is the opportunity to have the Secretary explain to those members who do not attend regularly the State Society meetings, what is going on in the Society. They, therefore, will benefit, and the members of each Society will be brought more in contact with the State Society. I know very few of our members attend the State Society meetings, and they are not interested, but once they get it thoroughly explained and they come out to a meeting, more of them will go.

Your duty as Secretary should be to continue in the job, report at these meetings, know what is going on, get upon the floor, speak, ask questions, and do not be backward, because our State Secretary is here to answer questions. He may look very formidable and scare you a little, but don't be afraid of him. I attended the meeting at Mackinac Island with him, and we found him very sociable.

He can even sing. I sang with him.

Dr. Warnshuis: Dr. Charters represents the District of Detroit, Wayne County, our largest medical society, and is a member of the Council.

Dr. Charters: Mr. Chairman and Secretaries: We surely welcome you to Detroit; we are very glad to have you.

We are getting along very fine in my District. There are a few wrinkles that need to be ironed out, but they will be taken care of very shortly. The problems that the smaller society Secretaries have do not enter into our problems. I have nothing to say in that regard, therefore, but I wish to welcome the Secretaries of the different County Societies to the Wayne County Medical Society during this day and this week of clinics. We should like to have you come up to the Maccabee Building, which is our Wayne County Medical Society building. We serve lunch every day there at a nominal cost. Make that your headquarters while you are here, and we will be delighted to have you.

I wish to draw to the attention of the Secretaries of the different County Societies, our Surgical Bulletin. We are very proud of that Surgical Bulletin. It took a great deal of effort to work up the Bulletin to the efficiency which it has attained this last year. We have had to ask for funds to help us along, but we feel it is worth while. We want every Secretary of the State's County Societies to feel free to write to us, and we will be only too glad to send you a copy of the Operation Bulletin for every day.

Last year we listed 30,000 operations in

the city of Detroit, ninety-six every day, and in that array of operative work surely you can find something of interest to you. We would be very glad to mail this to you at any time you contemplate coming down here. We will be very glad to welcome you into our Wayne County Medical Society rooms, which you will find very, very fine.

I am delighted, of course, to have you here in Detroit. It is the first time you have met in Detroit since I have been a Councillor.

We have with us today, and I am going to ask him to explain a little in detail about our Surgical Bulletin, with your permission, Dr. Whitaker, who is the Chairman, and who has been the wheel-horse of the Surgical Bulletin of Detroit, and I think has worked it up to a great state of efficiency.

Dr. Whitaker: Dr. Charters presented our views very well, but I am glad to have this opportunity to draw to your attention the Bulletin. About four years ago it was hoped that Detroit would develop into more of a medical center than it had been in the past, and that the question of post graduate clinics would be developed further.

While Dr. Stapleton was President of the County Medical Society here, he appointed a committee consisting of a member from each hospital of the city, and formed a special committee of the Wayne County Medical Society, called the Detroit Clinical Bulletin Committee. This Committee publishes the Bulletin daily, receiving each afternoon from each hospital the clinical program which is to be presented at the hospitals the following day. It is the wish of this Committee that the Bulletin will be of service to every member of the medical profession in Michigan. As you all from time to time come to Detroit, I hope you will let us know when you are coming and let the house secretary of the Medical Society know you are coming and she will be very glad to arrange for you to receive the Bulletin during your stay in Detroit.

If I may enter into your discussion one minute before I sit down, I should like to say that the answer to this problem of attendance at the County meetings may be found if you will announce in your programs that there is to be a little medical economics discussed, and perhaps the activities of the various social agencies which are encroaching on the practice of medicine; I am sure you then would have to enlarge your club rooms and that you would not have small meetings any more.

Dr. Warnshuis: In my citation of the activities

of the State Society, I told you about the Medico-Legal Defense Committee and the protection that it afforded you. I told you that later in the afternoon the Chairman of that Committee would be present and would present the subject to you a little more in detail.

Dr. Tibbals, who has officiated as Chairman of our Medico-Legal Defense Committee since that feature was instituted and that part of our State Society work was undertaken, is now with us and will talk to us.

Dr. Frank B. Tibbals: Dr. Warnshuis tells me I have but five minutes, and that doesn't even get me started, so I am not going to talk about what I would ordinarily talk about if I had plenty of time to talk about it. I am going to come before you County Secretaries with a personal request. The occasion for this request arose through my letter to Dr. Warnshuis a month or so ago asking him to send me the list of local members of the Medico-Legal Committee, one member of each constituent society, supposedly being elected annually.

He replied to me that he had received the names of only about a dozen men, which means that either in seventy-five per cent of the County Societies no man has been elected recently, or the Secretary has been a bit remiss in not forwarding that name to the State Secretary.

I am quite anxious to have these representatives elected in each County Society. I don't blame a lot of you Secretaries for letting the matter go, if you are the men who are responsible for that, because in many of the County Societies there has been absolutely nothing for these local representatives to do; in some counties in the state we have not had a suit. But in many of the counties these men have been exceedingly efficient aids to the Chairman of the Medico-Legal Committee in getting at the facts in suits or threatened suits and in preparing for the defense of the matter. It is my hope that I may be able to do a little more work along these lines myself by annually at least getting in touch with the local members of this Committee.

The Secretary in each County Society is really the man behind the gun. In many counties he might be the man to whom the malpractice suit or the threat of suit is first reported. That would depend somewhat upon how active your local member of the Medico-Legal Committee is and how well known and how popular he is.

In many counties, Kent County, for instance, Dr. McBride has been a wheel-horse there. He has been on this Committee ever since this work was started, and he is so well known in this work in Kent

County that men report to him, and he is an efficient aid to me in handling these matters.

It is my hope that in every county in the state we may develop men who will be equally useful. Sometimes I do not get the exact facts. The doctor, not appreciating the medico-legal importance of absolute frankness, may overlook certain things which if they come out for the first time on trial may have a very damaging effect. I have found that the local member of the Medico-Legal Committee is a very efficient aid in getting at the exact facts. The facts as they really occurred are what we want to know. We want to be prepared in advance to meet the facts of the other side by knowing all that can be possibly known about the case. It is when something is sprung on you unexpectedly which you never dreamed of and which the defendant doctor had forgotten or preferred not to mention that you are up against it.

I think I have had my five minutes. I should like to talk longer, but this is my request; that when you go home, in each of your County Societies where a local member of the Medico-Legal Committee has not been elected for 1928, you elect one at the next meeting and notify Secretary Warnshuis of your selection.

Dr. Warnshuis: Just as you men gaze about you and watch the activities of the live organizations among your brother or sister County Societies, so too do State Societies gaze about the country and watch the activities of other state organizations. There are outstanding ones in the national work as there are in the state work represented by the County Society.

One of these outstanding organizations is the New York State Medical Society. As I have told you, Dr. Ross, of New York, is going to address us on the legislative problem tonight. He is also a Councillor and an active member of the Council and of several committees in the New York State Medical Society, and I am going to ask him to be frank in a New York way and tell us what he thinks of our meeting and give us any suggestions he can for our County Secretaries to take back with them.

Dr. W. H. Ross: I would not attempt to cover the whole ground, but I have made some interesting notes. Several things are of special interest, and there are other suggested things I can take home that will be of very splendid use.

I am particularly interested in just the touch of social and state medicine. We have a problem in New York that is going to go through the House of Delegates this year. There is a scrap on in Cattaraugus County. There is a great demonstration there. They carried it on five years, and then by manufactured lay support they

got it going again for another year, and the doctors are up in arms, and very rightly so. That is a very interesting thing. The remedy is exceedingly interesting. We have concluded that the fault is largely the doctors themselves, because they have not taken a sufficient interest to become members of the various committees that would control the situation.

A number of problems that have been discussed this afternoon lie largely in the doctors' hands. If the doctors would become sufficiently interested, we could control practically all of these problems.

In my own county we once had an attendance problem, and we have not nearly so great a problem in that respect now, because we found out just what the men want and just what interests them. We haven't the problem with speakers that you have, because we can get them much more easily.

This meeting is one of the best Secretaries' meetings that I have ever seen. You have spoken honestly and frankly. So often that cannot be quite done, but you seem to have presented the problems that actually occur. It is so natural and so good to hear it, that I am going to say something at the next trustees' meeting of the New York State Medical Society about several notes I have made here.

One thing that interests me very much is your endowment foundation. We are trying to do the same thing in New York. Our dues there are a little bit larger. Once in a while someone says they must be larger to do the work. The majority of the men say, just as you do here, you can't make them larger. The solution is to have an endowment.

We are starting the same thing, but we are doing it so far by economies in our administration, saving some of the money. Of course, I can readily understand and appreciate your difficulties, because you have smaller numbers and consequently your income is smaller. Therefore, what you do is very much more to your credit than what we do. When you think of the New York Medical Society having 11,000 members and having an income of \$120,000 a year, approximately, why shouldn't they do a great many things? And some things we don't do quite so well as you.

I wish I could attend one of these meetings once a month.

Dr. Warnshuis: Are there any other questions?

Dr. E. M. Highfield: The other evening when I was just starting to carve a roast for some doctor friends, a doctor came to

the door and wanted to know why he wasn't elected to the County Society. Some eighteen months ago we had a man come to the county and, as is customary, we sent him an invitation to come to the County Society. We took him to the Lansing meeting and endeavored to make ourselves good fellows. Pretty soon his competitors found he was saying and doing things that they didn't look upon as proper. They requested me not to invite him to our meetings any more. He came in the other day and applied for membership by transfer from Wisconsin. As we were not going to have a meeting and it required sixty days for the transfer to be reported on, I returned it to him, stating the facts, and said he could do as he wished about it.

He secured another one later and sent it in, so that we were obliged to refer it to the Committee on Membership. That Committee chose not to report back; they chose a way of killing the thing in committee, like they do at Lansing.

The doctor came in the other day and wanted to know why he didn't receive a notice. I told him that the Committee had never reported that thing out of their Committee. He wanted to know what was going to be done about it, and that is what bowled me over—the question as to what we could do about it.

Naturally we would expect to be influenced by his doctor confreres in his own county, I told him. He said, "What could I do about getting in now when one is the President and the other is the Secretary?" That is the question, and it has not been answered. I should like an answer to it.

I have enjoyed the papers very much, particularly Dr. Marsh's suggestions. I always get a lot of good suggestions when I come here. I usually come here to soak up a lot of stuff.

As to attendance, we have found that we get the best attendance when we have a dinner in the evening. Of course, there is the question of dues and the price of the dinner, and a lot of things that have to be managed the best way we can manage them.

I want to emphasize what Dr. Cook said about the film. It is certainly very good, and if it can be brought about that we can have others like it, it will lessen the work of the County Secretary very much, because he can get that reel on short notice. I presume we will get it depending on how much you men ask for it and how much you instruct your delegate to see if

the State Society can't spend a little money and start those reels and arrange so we can get them. I think the difficulties could be overcome, and I think the films would make very good programs that could be worked in on short notice.

Often a man sends word at the last moment that he cannot come. Some men come to contribute to a program without any preparation. Of course, we don't ask them back again. We know there is an excuse for it, that they are busy men, and they think they can write out a few notes on the train, or they see by the train schedule that they have a couple of hours after their train arrives before they are called on. There is always a reception committee to take them around, and the result is they don't get a chance to make any notes, and they don't have a very good speech ready. That is part of the program—to get a man who is a good talker.

We find that the men who are teaching their subject every day are better able to present the subject. The man who is doing general practice or some specialty work, if he is not teaching that subject and not expected to teach other doctors, is not always prepared to present the subject well.

Dr. Warnshuis: That doctor wants to become a member of your County Society because your County Society is a live organization. It is something that is worth while to him, and for it to be worth while. You again are the goat. I would go to that man and tell him that his application is held up because of the action or the methods that he has employed in his relationship to his fellow practitioners and that they are not in conformity with the policies and principles of your County Society, and that up until the time that he does conform to the practices and the ethics of your County Society he is not going to be a member; that you will place him on a period of probation, for six months, if you like, or a year, and if at the end of the year he shows that he wants to affiliate with you and with your organization and make himself amenable to the customs and practices and courtesies of your County Society, he can be elected to membership.

Dr. Ward: There is one subject that has not been touched on, which is the subject of the ladies' auxiliary. One of my daughters married a doctor in Bay City a year ago last winter, and I have heard her say so many things about Dr. Foster, whom I first met today, that I should like to have him tell us something about the ladies' auxiliary in Bay City. She says they have wonderful times up there.

Dr. Warnshuis: May I precede Dr. Foster for a moment and state that the State Council and the House of Delegates have endorsed the movement and sponsored the organization of the Michigan State Medical Society's Woman's Auxiliary and that the present officers are Mrs. Kiefer, the President, and Mrs. J. McIntyre of Lansing, Sec-

retary. They have written and are writing to the various County Societies, urging the organization of auxiliaries, and they are going to have a state meeting of the ladies at the time of our state meeting here in September.

If you haven't in your County Society appointed a committee to arrange for the organization of a local auxiliary, you are urged to do so by your Council, and then to get in touch with Mrs. Kiefer or Mrs. McIntyre. The auxiliary can be made a potent aid to the Secretary as well as to the County Society.

Dr. Foster: I thought human nature was the same all over, but I find that we differ from Dr. Marsh's outfit in that he says most of his members won't talk and discuss. Up in our country we try to keep them from talking. I have been trying to keep quiet today to see what I could learn.

We found our attendance going up, for no reason that was apparent; it surely was not the Secretary's fault. The first thing we noticed, the women were meeting the same night the men were, and there was nobody home to get the supper, so the men had to come to the meeting. It is a fact that the men came to the meeting because there was nobody home.

The women, probably due to their intuition, have suddenly become imbued with the idea that the County Secretary is the work horse and that when their notices are to go out and things of that kind are to be done, he is a pretty good fellow to do them. That started in our county, but I believe it has been headed off.

We have really found that the woman's auxiliary has been a big boon to our attendance simply by meeting the same evening at a dinner meeting, but at some other place, not at the place the men meet.

Dr. Warnshuis: Are there any further questions?

... The meeting recessed at five-ten o'clock ...

MONDAY EVENING SESSION

May 14, 1928

The meeting following the dinner was called to order at seven forty-five o'clock by the President, Dr. Randall.

President Randall: The subject tonight is Medical Legislation. We have two speakers, one from New York State and one from Michigan. The history of medical legislation is one that goes back a good many years. The Babylonians, the Egyptians, the Romans, and every country and state have had different propositions to solve. The medical profession today should read the old criminal medical code of Hammurabi, in which there is the provision that if the doctor treated a slave and lost

a slave, he had to furnish a new slave; if the slave was cured, he got fifty cents; if it were a member of the royal household or family who died, the penalty was much more severe.

The first time in the history of the world that there was ever any attempt at medical legislation was in Frederick II's time. Mind you, in the days of Hippocrates and Galen there were no medical laws, no medical restrictions; anyone could practice medicine. When Frederick II promulgated his laws, they were more strict than they are today. It required two years of pre-college work in logic before one could study medicine.

France struggled through the period of her surgeons, master surgeons, barber surgeons; England went through the same process. The apothecary became the practicing physician through the modification of the law.

In the early history of America we had about 30,000 irregular practitioners. In the early days there were only a few hundred men who had ever seen the inside of a medical college.

Michigan, in its early days, had the examination of candidates for practicing medicine by the State Medical Society, until a few years ago.

The practice of medicine is not a natural right. It is a grant by the state of the privilege to practice a certain following. This right to practice medicine is subject to revocation for violation of certain laws. The state requires registry each year; it can require that every year you be re-examined in your subject. It is a police power of the state, and when you come to police of the state it is unlimited.

A good many solutions have been thought of as the best thing to do to protect the medical profession and also to give the people the best kind of service.

Tonight we have the privilege of listening to Dr. Ross, who, by the way, is a country practitioner, and who is interested in medical legislation and has come here to tell us of the experience that they have had in New York State with the various laws and to advise us what we should do in the future in regard to asking the legislature to pass certain laws. Dr. Ross of New York. (Applause).

... Dr. W. H. Ross read his address. (Paper No. 3) ... Applause). See Original Articles this issue.

President Randall: I am sure that Dr. Ross has given us a great many things to

think about. On the other hand, he has given us a good amount of sound advice.

It was my privilege this year to appoint a committee to study the matter of the regulation of the healing art by law and to report at our next state medical meeting. I looked around the state for men to compose that committee, and I don't know that the Secretaries know the personnel of the committee. Dr. Kiefer is Chairman; Dr. McIntyre of Lansing, Dr. John Sundwall of Ann Arbor, Dr. Jackson, Dr. McClintic of Detroit, Dr. Marshall of Flint, constitute the committee. I think you will have to go a long way to beat that committee.

The committee has been working on this problem. It met two weeks ago in Lansing, and Dr. Kiefer will tell you tonight about how far they have arrived in their work.

When it comes to state medicine, social medicine, I am awfully glad Dr. Kiefer is State Health Officer. If anyone has any fear of Dr. Kiefer's going into state medicine, I think he need only know the work that he has done and hear him talk once or twice to know that the profession of Michigan feels it has a friend over in Lansing. For that reason I had the honor of appointing Dr. Kiefer Chairman of that committee. (Applause).

Dr. Guy L. Kiefer: Mr. President, Secretaries of the County Medical Societies, and Fellow Doctors: I intended to give a very brief progress report of the work done so far by your Legislative Commission, and I will do so, but I want to say first that the splendid, enlightening address given by Dr. Ross tonight will be of very great service to all of us, and particularly to your Commission, which is working on this very same subject.

Maybe I should say to some of you who may not possibly have been at the last State Medical Meeting in Mackinac, that at that time, having been in the position of State Health Commissioner for a period of a few months, I stated some of the policies that we proposed to adopt, that we had adopted, and that we are now pursuing. Those policies are: As close cooperation with the medical profession as the medical profession will allow us to have. We do not propose to introduce and we have not to this time introduced anything new nor have we continued anything old in the work of the Department of Health that has not first been submitted to the Council of the State Medical Society and has been approved.

It was after the statement of such policy that the delegates of the State Medical Society passed a resolution (I might perhaps better say that the resolution was passed after a splendid address on the need of medical legislation by Dr. Jackson, the outgoing President), giving the President of the Society the right and instructing him to appoint a Legislative Commission to take up the study of this matter.

As Dr. Randall has told you, he conferred upon me the honor and placed in me the confidence, as representing the medical profession, of being Chairman of this Commission.

I assure you that we don't propose to go very far with this without consulting others of the profession from all parts of the state. It is, therefore, a great privilege to be able to address so many of the Secretaries and so many of the County Societies tonight and let them know something about what we have in mind.

After we get all through compiling a tentative law or having it compiled and properly corrected by legal talent, we will, of course, submit it, as it is our duty to do under the resolution, to the meeting of the State Medical Society this fall in Detroit for consideration and correction and amendment.

If you read the current number of your State Medical Journal, as you all should have done, you would have found in it some of the things that I am going to tell you, but fearing that perhaps it has escaped some of you, I will take the chance of repeating.

The first thing that was done by your Commission was done by the worthy Secretary of the Society and of that Commission, Dr. Frederick C. Warnshuis, who had sent out to every Secretary of every state registration board in medicine in the country and to every Secretary of every State Medical Society, a questionnaire, the object of which was to get some information about the registration laws in the various states, about the opinions of the Secretaries of the various Boards, and the opinions of the Medical Societies represented by the Secretaries of the various medical societies.

We received answers from all of them, and strangely enough we received contradictory answers as to how these various laws were working and how they pleased the profession, from the two people to whom we wrote letters, namely, the Secretary of the State Medical Society and the Secretary of the state board of regis-

tration. But we compiled the results as best we could; they were compiled in the office of the President of the Commission, and we put down briefly a statement of what was considered the most important by the Secretaries of the registration boards in their various laws, and we put down the opinions of the various medical society Secretaries.

Then we had a meeting and we considered these abstracts and these various laws, and everybody had a chance to study them after the meeting and to determine what things in the laws seemed to be the most urgent for initiating.

Some of the members of your Commission have thought, and I know that a great many physicians throughout the state have thought, that we have now a fair medical registration law. Its principal weakness seems to be in its enforcement, in the lack of power to enforce it. There doesn't seem to be any provision made for that.

It has been considered dangerous in the past, since 1902 when I think this law was enacted, to attempt to make a wholesale revision of the law. Dr. Hume looks at me rather curiously when I make that statement, but he knows he is one of those who has considered that a rather dangerous proceeding.

We have used all our forces and expended all our energy in trying to keep down unnecessary laws by the various cults. The only other cult that may now register under a separate board in Michigan is the osteopaths. They have a law which allows them to be registered. The chiropractors have not succeeded; they came pretty near it. At the last session of the legislature they came so near it that the law was only defeated in the upper House the last day of the session by two votes. It was due largely to the efforts of a medical man in the Senate, Dr. Green, of Richmond, Michigan, and Senator Engle of the upper part of the state at Lake City, that this law was finally defeated. Senator Engle made a speech in which he recited some experiences of the treatment of diphtheria in his county and in his city by chiropractors, and succeeded in swinging the vote the right way.

Our present registration act or law has upon its board and therefore has recognized regular practitioners, homeopaths, eclectics, and physio-medics. In other words, they are represented by membership on the board, and they have in the past been recognized. Physio-medics are dying a natural death, and the eclectics are

following close suit. Homeopaths are becoming regulars.

We have considered what should have been the principal things that a new medical registration act or law, or a law outside of such a law, should contain. By a law outside of such a law I mean possibly a basic science law or something which may be called similar to a basic science law not necessarily requiring the basic sciences as they are generally considered.

We considered at our last meeting a tentative law which does not touch the present act that registers physicians. This law that we have considered does not mention doctors or any cults. It speaks of the science and art of healing in no way whatsoever, and it provides for a separate board of educators to pass upon anyone who desires to take up the study and finally admitted anywhere for the purpose of practicing the science and art of healing in any form whatsoever.

We have thought that perhaps if the minimum requirements to enter the healing science in any way were made sufficiently high, if persons were required to have a certain amount of learning in sciences and perhaps in languages and other knowledge, they would then not choose to continue by taking short courses in chiropractic or some other cult and becoming anything but physicians, but would continue and become doctors under our regular requirements. That is one of the thoughts that we have considered as we have gone along.

Personally I am rather inclined to believe that that would go a long way toward solving our difficulty. If we decided to do a thing of that kind, then we would not touch the present practice act; we would then require everyone who desired to be allowed to study the art or science of healing to practice it in any way whatsoever, to have, for example, a qualified (and in this extent we have already described exactly what we mean by qualified) high school course, and to satisfy the Board of Examiners that he has had such a course by a thorough and proper examination, and then he would be required to take two years, sixty hours, of college work in the proper prescribed college, which would be designated in the law, and would have again to satisfy the Board of Examiners that he had such knowledge and that he had such courses and that he was able to pass an examination on such courses.

Dr. Ross brings to us some thoughts very strongly in favor, it would seem to

me, of this Commission taking right hold and going at it and revising and rewriting the entire medical practice act. Having some of the essentials that he spoke of, first a proper definition of the practice of medicine, it seems to me that is one of the things that we must consider now, whether we make it in one way or whether we make it in another form, that we have a proper minimum requirement of education (that I have already described—it may be done in one way, or it can be incorporated in the law), that we have a provision for the enforcement of this law by the attorney general's office. That, by the way, is in our tentative law now, because we have felt and we have known—those of us who have been more or less active in trying to protect the practice of medicine and in trying to overcome the arguments of the cult—that when we tried to prosecute anybody for practicing illegally, it has always been difficult to get a local prosecutor who has local alliances to take hold of the thing; whereas, if that were passed over to the state's attorney's office it would be a more satisfactory way of handling it. That we have considered very carefully.

Dr. Ross spoke of some other things which I want to call your attention to that exist in Michigan today. I think I can say without any fear of being mistaken at all that we can readily get the lay support that he has pointed out that the passage of such a law requires. I don't want to seem to be selfish or to talk ego at all, but with the sincere co-operation that you are getting from the Department of Health, I am sure we can because of their co-operation with us, get such associations as the Parent-Teachers' Association, the Michigan State Tuberculosis Society, the Federation of Women's Clubs, and others that were mentioned.

This Commission has considered having a lay committee of prominent citizens, men and women, appointed to help the furtherance of the passage of this law. That might be a good thing to do. I am telling you the things that we have considered. This is simply a progress report. We have not concluded anything. I am telling you, however, because I think it is a privilege to be able to tell the Secretaries of our various County Medical Societies these things so they can go home and get the sentiment among their constituents.

This meeting ought to be far-reaching. There are men from all over the state; there are men from the counties of the upper peninsula, from the lower peninsula,

and from the central part of the state. We want you to know what we are thinking of, so when you get home and talk it over with your members and get suggestions, you can let us have them. We would a good deal rather have them now and pick out those we think will meet with the co-operation and consensus of opinion of the profession of the state so we can present something at the State Medical Society that will be accepted and adopted.

I want to assure you of another thing that you may or may not know; that this is the psychological time to undertake such a revision of our practice act, because we, too, as New York has had for a number of years, now have a governor who stands for better practice of medicine and the protection of the medical profession and the people by helping us create better doctors and better practice. I know that; the members of the Commission know it; your Secretary, Dr. Warnshuis, knows it. We have been told by Governor Green: "If you fellows will get busy and get up a law to get rid of this everlasting fighting with a lot of cults every two years, that shouldn't practice on human beings, I am with you and I will help you see it through."

It seems to me, with all those favorable things, with the fact that we can get some of this help that it has been pointed out to us we must have, with the fact that we can get the help of the governor, this is the time for us to go right ahead with our work.

The words of Dr. Ross have been not only enlightening, but they have been very encouraging. They were very encouraging to me and I know they were to the rest of the Committee, all of whom are here with the exception of Dr. Marshall. That shows their interest in this matter.

If there are any suggestions, even as early as tonight, we should like to get them. We want a law that will pass, first of all. You notice, Dr. Ross said they had the best law that could be passed in New York at this time. Whether he had in mind that it might be improved sometime if possible I don't know, but that is the best that any state can hope for. We want to get for all of us the best law that the legislature of Michigan will stand for at this time.

That brings in another thing. We were advised in our first meeting by a prominent member of the legislature, how to proceed. I told him what we were doing and that we were going to try to get up some-

thing to submit to the State Medical Society in September. He said, "Good Lord, if you wait until September you are all done. You want to get this thing lined up before these fellows get to Lansing; you want to get your men in the state to find out who is going to the legislature and let them know that you are going to have a law that will be worth while, and get their support before they ever see it."

He said, "Another thing you want to do if you can is to get some doctors into that legislature."

It seemed to us when he got through talking with us (of course, he is a man who has had a number of years of experience in the House), that he knew what he was talking about. I think the very experience last year and another time in a previous year when we had Congressman Bohn of the upper peninsula and Congressman Green, who succeeded in defeating the chiropractic bill, with some little help, should warn us to get busy right away.

You men come from various parts of the state. You have well organized County Medical Societies. You probably know who are your aspirants for the office of legislator, and if you haven't as yet any candidates, it seems to me it ought to be possible to get a few doctors into the legislature. Legislative action is not always done on its merits; it is done very frequently by trading, and a doctor in there might be able to vote for some laws that didn't make any difference as to their existence except that they were unnecessary and superfluous, and in that way he might gain some votes for our medical practice law.

Those are some of the things we have thought about, and I am very glad to have had the opportunity of pointing out to you some of the things that you can do now to help this Commission. This Commission can meet, they can read between meetings, they can study up these various laws, they can get such information as we all have received tonight, and they can put their heads together and devise the very best thing they know how, and then they can submit it to you for your approval or disapproval; but in the meantime you can do a lot to oil the machinery and get the thing started so when we do get ready for it we will be successful. (Applause).

President Randall: We are going to allow you to discuss this subject.

Dr. Hume: I am pleased to be here tonight, because I have a clearer conception

of what the Committee is proposing. My belief is that the judgment of the Committee is very good indeed and that the easiest way, the best way, is to wipe out the old law that we have and have an entirely new one.

Dr. Kiefer is perfectly right in that I have always advised, from my experience in the legislature, wiping out all that we have and coming out with this kind of proposition that can have back of it the medical men in the state. We can show clearly that this is for the public good, for the benefit of the people, and in no wise is it legislation that is asked for by the doctors for their own benefit.

Dr. Jackson, Kalamazoo: I should like to ask Dr. Ross what are the arguments for the annual registration of physicians?

Dr. Ross: Every doctor in the state of New York receives a list of those who are registered, with the request that if he knows of anyone in his community not on that list, he notify the Secretary of the State Board of Medical Examiners or the Secretary of the State Society. It is for the purpose of furnishing the roll call and keeping it up to date. We think it is a very, very effective thing. It carries with it a fee for registration, and that fee provides for the permanent organization for the purpose of administering the law. Otherwise, if we didn't have an income from that we would have to have an appropriation by the legislature sufficient to pay the expense of administering the law.

Dr. Jackson: Is there any objection to that fee?

Dr. Ross: There was a lot of objection while the bill was being formulated. It took several months to do it, and we had to have meetings all over the state. When it was finally presented, one county, with quite a large number of doctors in the county, opposed it quite strongly. They spoke against it, though the rank and file of that county did not oppose it. There was not much objection. Today there is no real objection, although in Kings County if you ask if they are entirely in sympathy with it, many of them will tell you they are not.

Dr. McIntyre, Lansing: How much is the fee?

Dr. Ross: It is \$2.

Dr. E. M. Highfield, Gratiot: How is that administered?

Dr. Ross: The active administration of it is through the Secretary of the State

Board of Medical Examiners and seven inspectors. We send these inspectors out to get the evidence. You can notify the Secretary of the Board of Examiners of any irregular practitioner or anyone practicing medicine in your neighborhood. You do not have to come out in the open and be in the position of having made the charge. They send an inspector down there. You could report me as an irregular practitioner in your neighborhood and I would never know where it started.

Dr. Moore, Cadillac: I just want to add to the word that has been said about the good work that Senator Engle did. I don't want to take any honor myself for our Society, but I must say that he was coached by our Society. He is an attorney, and he just got us to coach him, and he gave as good a medical talk and as good an argument as any doctor in this room could give. He argued in concrete cases. We happen to be in a hotbed of chiropractors. We have one chiropractor in our city who served fifteen months in jail on three different occasions.

I think it is within the power of every physician to make a friend of his Senator and Representative. It is done in business, and it is done socially. Get him out and take him on a fishing trip or a hunting trip, or get him into a poker game. Get under his skin. Don't let him know what you are doing when you are talking to him, but get him so full of it that he is just all for you.

Senator Engle has just had a lot of experience with diphtheria in Missaukee County. I guess Dr. Kiefer knows something about that. Wexford County has immunized its entire school population and a good many of the pre-school age pupils with toxin antitoxin. Missaukee County didn't do it. Missaukee County has some physicians practicing there who do not belong to our Society. They have had all kinds of trouble. I know of several mothers with ten or twelve children in the family who were using these physicians. Senator Engle will certainly be loaded, and so will our Representative.

We have had a small epidemic of scarlet fever in Cadillac all winter long, and quite a bit of it is due to two local chiropractors. They have promised to be good. Our chiropractor who served fifteen months in jail, wrote a very nice letter to the Health Department; it was a masterpiece. He certainly made friends with the local Health Department; they thought he was a very fine gentleman. But he proceeded to go

right home and call on acute disease cases. Those men advertise in the paper that they treat acute diseases; and they do that so as to get the acute diseases to treat.

Just as long as a chiropractor is allowed to treat acute diseases, sore throats, and the like, we will have trouble. I don't think any doctor can diagnose scarlet fever if he doesn't see it at the right time.

We had the experience this year of teaching the public something. Every time a pupil is out of school for three days, they must get a permit from a physician before they can re-enter school, and we have not recognized the permits of chiropractors.

I had a very good family that I did quite a bit of work for, but they fell in love with a chiropractor, and they had him treat the children with their acute scarlet fever. We kept them out of school, and we continued to keep them out. When they came for a permit they had to come to me. I said I didn't know what was the matter with them. They sent the little boy in, and I asked him if his little baby brothers and sister's hands were peeling. He said, "Why yes." They hadn't coached him well enough. I immediately took the health officer and went direct to the house, and we found the two children with their hands peeling. No health officer can control scarlet fever as long as you have chiropractors practicing medicine.

I think it is a good suggestion for every physician and County Secretary to take home to the local societies to cultivate the acquaintance of the Senators and Representatives and then your problems will be solved. You have to do it on the banks of a stream or in a hunting camp or in a club room or a noonday luncheon club or some such place as that where you can get right next to the fellow.

Dr. McClintic, Detroit: The idea that Dr. Kiefer has impressed upon us, I think most of us feel would eliminate the chiropractors. It is interesting to know that the chiropractors have to meet the requirements of the so-called basic science law. The doctor said he didn't know how they were registered. Because of that, some of us feel that the basic science law is inadequate to keep out the quacks, the chiropractors, the fake healers, and others.

Another objection I have to the present medical practice act is that I think too much is left to the discretion of the Board. I don't think it is a good law to have things left to the discretion of a committee which in turn is not a police organization.

There are one or two other things that

I think Dr. Kiefer did not emphasize that are worrying some of us somewhat. One is that most of us feel we must have an injunction clause in our new state law so that as soon as we find one of these cultists violating our act, immediately we can have an injunction issued against him and prevent his practicing medicine until he comes to trial. The point of putting the enforcement act into the attorney general's hands, as Dr. Kiefer mentioned we are contemplating, I think is going to be a far-reaching step if we get the law enacted in this state, because certainly at present we have no very effective machinery.

I did not quite hear what Dr. Ross said as to the enforcement organization. It has been puzzling us a little as to what sort of organization we should have created in our act to enforce this law in the event that we have it enacted.

After listening to a review of the history of New York, I think we certainly have all come to the conclusion that this is an eternal fight. They have evidently been fighting on Manhattan Island since the sixteenth century, and they are still fighting and probably will have to continue to fight. The way I look at it, it will be a continuous battle.

Dr. Warnshuis wrote me a letter the other day, wondering if we got a good law enacted if another bill wouldn't come along and exempt some of the cults from the enforcement of this act.

As I see it, the only way we could ever get a permanent law that would not be too open to attack every time the legislature meets would be to have an amendment to the State Constitution. We must be eternally vigilant about this matter in the legislature.

I am thoroughly convinced or converted to the idea that we should have in the legislature some good, wide-awake doctors. I think occasionally some one of us should be able to go to Lansing for one or two sessions, and then we could come back and let others take our place, and keep a few wide-awake men in the House and Senate all the time. I feel we should be so able to frame our law that we can make the academic requirements that we are going to ask, apply to all these people who seek license to practice any sort of healing art whatsoever. As a matter of fact, we would probably catch the nurses and dentists. So I think we will have to except the nurses and dentists, or the first thing we know there will be no one left in the state to do anything for the suffering except the doc-

tors. I feel if our law is enacted and properly enforced, we will really have the screws about where we want them.

I certainly enjoyed Dr. Ross' enlightening talk. On the other hand, I also trust we may still have suggestions from the County Societies over the state.

There isn't any question that one of the things we have to do first is to convert the medical profession to these ideas, and then depend upon the medical profession to create enough interest on the part of the public to put this thing across. We are eternally faced with the accusation that we are a medical trust and that we have selfish motives in seeking to promote our own interests in raising the standards for the practice of medicine. We certainly should disabuse the minds of the public as to that. We are fortunate that we have begun already. I am rather inclined to think that these lay organizations will be of great help in putting this thing across. The first thing is to sell it to the doctors; that is sometimes just about as difficult as to sell it to the laity.

Dr. Sundwall (Ann Arbor): I know we have gained much from Dr. Ross' visit and his very able paper this evening. His summary I think should be remembered by everyone. He emphasized teamwork; no medical body can do this work alone. It took New York a great many years to appreciate that fact. I think it is one that we should think of very seriously in our future efforts toward improved medical legislation in the State of Michigan. I think we have many opportunities for getting this team work. I believe that in the State of Michigan we have, relatively speaking, as many intelligent and at the same time aggressive voluntary health agents as they have in New York. Dr. Ross has called attention to the work of the Charities Commission under Homer Foulke, and contributions along that line.

Perhaps we as the medical profession have not been as energetic in the past in our efforts to have associated with us these various lay organizations. I know them pretty well, I am quite familiar with the various voluntary health organizations in Michigan, and I know that they are very anxious to help us.

There has been a tremendous development in the education of the public along the lines of preventive medicine in recent years. Take our efforts along the lines of child hygiene; take the tremendous growth in school health work in the state as well as in the country as a whole. Then we

can take into consideration the development of public health nursing, and I could go on and speak of the other voluntary associations that are doing this work.

I think in our future efforts toward getting the right type of legislator and our future efforts toward proper medical legislation, we should ever bear in mind the importance of this excellent summary of Dr. Ross that the medical profession cannot do it alone. That has been the mistake in all of our past medical licensure and legislation—we depended upon the medical profession.

I think on the whole most people react emotionally toward medicine. By that I mean so far as their bodies are concerned, whether in order or out of order, most people take an emotional reaction. I am speaking of the public at large. To the public at large we are just as much of a cult as is the chiropractor or any other form of irregular practice, and, of course, that has been the great point in the past.

What I want to suggest in particular is that in our various county societies sometime between now, let us say, and the next month or two, if each County Medical Society would put on a special meeting when the time is right, a meeting which would include, let us say, the Parent-Teachers' Association, a meeting which would include the authorities of the public schools, including the teachers as well as the members of the board of education and those who make up the board of control, including the visiting nurses' association, the public health association, the representatives from all of the welfare agencies, and then explain to them just what we have in mind in this legislation, I am certain your work would be very much facilitated.

Again, in conclusion, let me remind you of that summary, that the medical profession cannot do it alone, and we have a very intelligent, strong lay organization in this state interested in voluntary health work that is more anxious to co-operate with us if we will just reach out and invite them.

Dr. Hume: I may say frankly that there is one way that they have of doing things in New York that does not meet with my approval. We are asking, in behalf of all of the people of Michigan, for certain legislation for their protection. Isn't that what we are asking? Isn't that why we want this law? It is not for our own protection, is it? We have been charged with that, that it was for our protection alone and therefore that it was a doctors' trust. If we claim that it is not

a trust, that it is for the benefit of the people generally, then why should we pay the expense of the enforcement of that law? It is a fatal error, I think, and it is the thing that has stood against this matter all the way through the law that we have. I am opposed to that idea. If this is for the benefit of the people of Michigan and this legislation should go through, it should be enforced and the expense of the operation of it should be carried by the people of the state of Michigan just exactly as the expense of the operation of Dr. Kiefer's office is carried by the people of the state of Michigan. It is for their benefit and they should pay for it.

Dr. Ross: That is a splendid argument, and we down deep in our hearts feel that it ought to be so, but we couldn't do it that way, so for the present we do it the other way. We pay for it, and soon the public, especially with the propaganda that is coming from the lay health organizations, are going to convince the state that it was done for their good, and then we hope to make an exception and relieve ourselves of paying \$2 a year for registration. We had to do it that way.

I think that remark that it was the best law we could pass in New York State at that time was said with that thought in view.

Dr. Warnshuis: I should like to convey to the Secretaries and the members of the Legislative Commission and also the Councillors who are present, the appreciation of the Council of the State Medical Society in the contribution each one of you made in giving your time and attending this conference today. I hope that each one of you has gained a broader and deeper insight into the activities of your state organization, and also has gained the knowledge that your state organization cannot exist without the co-operation of the County Medical Societies, and that after all is said and done it is the County Medical Society that determines the achievements that organized medicine is going to acquire and attain in Michigan by the degree and activity that you manifest in your county organization. That is why we ask that as you go back home you report these activities to your County Society and let your members know how essential it is for them to remain interested and to make their contribution to the furtherance of these movements that are being wrought primarily for the benefit of the public, but also at the same time not unmindful of the interests of the individual doctor.

As has been said, your officers of your State Society, your Council, your Secretary, purpose to come to you in a closer and more explanatory manner than in the past, in order that you may gain an insight into the activities that are being fostered and so secure your interest, and in securing your interest secure your support.

Again I thank you in behalf of the Council and the officers of the State Society for your presence here today.

. . . The meeting adjourned at nine-twenty o'clock . . .

CHIPPEWA COUNTY

The regular monthly meeting of the Chippewa County Medical Society was held at the O'Jibway Hotel April 19th. The meeting was preceded by a dinner with Dr. C. J. Ennis as host. The entire program was devoted to a discussion of better business methods among physicians and the elimination as far as possible of the "Dead Beat." This subject was discussed freely by all present. The question of procuring a contagious hospital was also taken up, and after much discussion, Doctors Moloney, Webster, Conrad and Bandy were appointed as a committee to form plans as to the cost, the type and size of building needed and the ways and means of securing same. Recommendations to be made at the next meeting.

To Dr. C. J. Ennis our host for the evening, we express our appreciation, both for the wonderful dinner and for suggesting a meeting of this kind to be held.

F. C. Bandy, Secretary.

LENAWEE COUNTY

The regular monthly meeting of the Lenawee County Medical Society was held at the Lenawee Hotel in Adrian, Thursday, April 19, 1928.

The meeting began in the usual manner with a dinner at 6:30 p. m. There were 21 members present and as guests we had Dr. James E. Davis, Pathologist at the Detroit College of Medicine and Surgery as the main speaker of the evening, and we were also greatly honored in having with us our State Society President, Dr. H. E. Randall and our Councillor, Dr. James Bruce of Ann Arbor.

Dr. Davis gave an excellent address on "Inflammation of the Kidney." His anatomical description of the kidney was so clear that one could see it in their mind almost as clearly as if the dissected organ lay in front of him. His classification of the different kinds of inflammation was simple and very clear. When he had completed his talk every one present realized that they had a better understanding of the logical method of treatment of nephritis than they had ever had before. Dr. Davis truly handled his subject in a masterful manner.

Dr. Randall then gave a short talk on the advantages of organized medicine and also gave a brief outline of the year's program of the State Society. He also stressed the importance of co-operation of the County Society with the State Society.

Short talks were given by Doctors Morden and

H. H. Heffron of Adrian, Veazey of Hudson, and Westgate of Morenci on what they considered were the greatest problems in their respective communities affecting the medical profession.

The meeting was brought to a close by Dr. Bruce who answered questions pertaining to present-day medical problems in general and those affecting conditions locally.

R. G. B. Marsh, Secretary.

KALAMAZOO COUNTY

The regular meeting of the Kalamazoo Academy of Medicine was held April 17th, 1928 in the Academy rooms. Following the dinner the meeting was called to order by the President, Dr. W. E. Shackleton.

The minutes as printed in the bulletin were approved.

There was no report from any of the committees.

The letter from the Parent-Teachers Council was discussed by Doctors Boys, Hubbell and Crum. Dr. Hubbell explained the function of the annual May clinics and informed us that they were sponsored by the American Medical Association. He believes the Academy should co-operate with the Parent-Teachers Association in doing this work.

Dr. Crum moved that the Academy support the pre-school clinic as it is the opinion of the Academy that this type is a good thing for pre-school children. Supported and passed.

The Secretary has informed the Parent-Teacher Council of this action.

Dr. Jackson talked on the proposed change in the Medical Practice Act of this state. Dr. Jackson is a member of a commission appointed by the State President to study and formulate a practice act to be presented to the next legislature for consideration. This act, he states, the commission wishes to reflect the opinions of the members of the State Medical Society. The new practice acts that have already been passed by some states were discussed and some of the benefits and advantages encountered in those states were related. Opinions regarding the new practice acts may be found in the J. A. M. A. of April 4th and 17th, 1928. Dr. Boys moved that the Academy is willing to support the commission in any decision they might arrive at regarding this matter. Supported and passed.

The scientific part of the program was given by Dr. Paul G. Magnuson, Associate Professor of Surgery, Northwestern University. His talk and lantern slides dealt mostly with lower back pain and old ununited fractures of the neck and femur. His methods of correcting this disability are certainly worthy of consideration as his results have been uniformly good.

SAINT CLAIR COUNTY

Regular meeting held at the Harrington Hotel, Port Huron, Michigan, Thursday, May 3, 1928. Supper was served to seven members at 6 p. m. and the meeting called to order by President Smith at 8 p. m. with the following members present: Smith, McColl, Burley, Bowden, Morris, Reynolds, Patterson, McKenzie, McCue, Meredith, Waters, B. E. Brush, Howard Brush, Attridge, Callery, Keshl. Caster, Windham, Heavenrich, Thomas and Sites. Rev. Young, Pastor of the

Ross Memorial Congregational Church was present as a guest.

The minutes of the preceding meeting were read and approved. Communications were read as follows: A letter from the State Department of Health advising the Society that whenever lectures were to be given in Saint Clair County due notice would be given the Society and all members were invited to attend same; a letter from the Bay County Medical Society inviting the members of Saint Clair County Society to attend a meeting to be held in Bay City on May 18, 1928, at which time Dr. E. Starr Judd of the Mayo Clinic would deliver an address; a letter from the Chicago Great Western Railroad advising of the service that road was prepared to give from Chicago to Minneapolis and Rochester, Minnesota at the time of the meeting of the American Medical Association this summer. Nine members signified their intent to attend the meeting at Bay City and the Secretary was instructed to so advise the Bay County Society. Dr. J. A. Attridge announced a meeting of the Hospital Board to receive an individual from Bay City with reference to putting on a drive for funds with which a new hospital unit might be constructed. Dr. George Waters informed the Society that the Hospital Board had adopted a resolution to make an inquiry of the American College of Surgeons with regard to having a representative of that organization visit the city and survey the situation and that a committee had been appointed to obtain the permission of the Port Huron Community Welfare League to put on a campaign for funds. The President asked the Society their pleasure as to the next meeting; whether same should be held at the Saint Clair Inn, Saint Clair, Michigan. A motion was made and seconded to hold same at Saint Clair and postponing the date until May 24, 1928, so as not to conflict with the clinic week in Detroit. Carried. Dr. Smith appointed a committee of Dr. Carney and Dr. MacPherson to make arrangements for the meeting at Saint Clair Inn and also instructed the Secretary to make an inquiry of the committee whether the members of the Society could meet early in the afternoon of May 24, 1928 on the links of the Saint Clair River Golf Club for a round of the game.

Dr. D. J. McColl entertained the members of the Society with a very interesting and graphic account of what he observed during his visit to Hawaii last spring. He touched upon medical conditions in the islands, the wealth, beauty and future of this territorial possession, the sugar cane and pineapple industries, the irrigation system, the tremendous yield of sugar cane averaging from eleven to seventeen tons per acre as compared with two tons in Cuba, the patriotism of the native Hawaiians, who, no matter of what race, were very loyal to the United States and resented any suggestion to the contrary.

Dr. McColl also spoke of the climate and stated the temperature range in the City of Honolulu to be from sixty to eighty-four degrees Fahrenheit. Owing to the trade winds the heat is not sultry. The speaker described the City Hospital of Honolulu known as the Queen's Hospital at some length, covering the endowment and management of same, the tract on which same was located being so beautiful and large, covering thirteen and one-half acres, the hospital being a four-story concrete building of very modern construction capable of caring for three hundred and seven patients. Besides the visiting staff, the institution has five internes, forty-one graduate

and forty-six student nurses and other personnel making in all about two hundred employees. The Social Service organization in connection with the hospital and also the Social Service Center where the free clinics are held was very highly complimented by Dr. McColl. The speaker then described a routine day's work of a physician and surgeon on the Island of Maui, where he had the pleasure of being with the doctor for the entire day. In conclusion Dr. McColl touched upon his visit to the Tuberculosis Hospital on the Island of Maui, an institution of one hundred and eighty beds, where, according to the physician in charge the disease may be cured in one-half the time required anywhere else in the world except the other islands of the Hawaiian group; and to the Leper Hospital where there were one hundred and fifty-nine cases under treatment. The President thanked Dr. McColl for his most interesting talk.

Before adjournment the President appointed a committee of doctors, Meredith, Attridge and Thomas to investigate an educational advertising proposal of the local daily. Adjourned at 9:30 p. m.

George M. Kesl, Secretary.

MARQUETTE-ALGER COUNTY

I wish to report the April activities of the Marquette-Alger County Medical Society.

The April meeting was held in Ishpeming at the American Legion Hall on the 17th. After a delicious dinner at which forty members and guests were present, the usual business meeting was held. This was followed by a very interesting paper by Dr. I. Sicotte of Michigamme on his experiences in European clinics in 1927. Dr. C. W. Hopkins of Chicago, Chief Surgeon for the C.N.W.R.R. and ex-president of the National Association of Railway Surgeons gave an exceptionally interesting and instructive paper on "Fractures" illustrated with lantern slides.

The May meeting is to be held on May 15th at Marquette in conjunction with the Marquette County Dental Society at which time the main discussion by both groups will be "Focal Infection."

Russell L. Finch, Secretary.

The Marquette-Alger County Medical Society held its regular May meeting in the Hotel Clifton on Tuesday evening, the 15th. The members of the 16th District Dental Society were guests of the Medical Society.

The main speaker of the evening was Dr. E. G. Robbins of Ishpeming who read a paper on "Mouth Infections" with special reference to oral sepsis. He spoke of the enlarging scope of the dental profession during the past few years; of Rosenau's work at the Mayo Clinic and his theory of "elective localization" and the results obtained; of the close relationship between dental foci of infection and chorea, iritis, gall bladder disease, etc. Dr. Robbins covered the different dental conditions together with X-ray interpretation of these conditions. In conclusion he emphasized the two main means of prevention of oral sepsis, diet and repeated systematic examinations of the teeth. Practically all present entered into a discussion of the paper and it was thoroughly enjoyed by all.

Dr. Paul Van Riper stated that Dr. H. L. Loveland of Republic was leaving for Tecumseh, Mich.

to make his home. The following resolution was adopted:

"We are informed that Dr. H. H. Loveland of Republic, who has been an honored and respected member of this Society, since its organization, intends to leave us at an early date. As an expression of our respect for Dr. Loveland both professionally and socially, we offer the following:

Resolved: That this Society take this means of expressing to Dr. Loveland our sincere respect and admiration for him as a physician and gentleman. We sincerely regret the loss of his companionship and we wish him most marked success and happiness in his new location."

The problem of caring for tuberculous children was again brought before the meeting and a resolution was adopted as follows:

"The Marquette-Alger County Medical Society, fully aware of the necessity of the care of tubercular children in this county, as well as the prevention of tuberculosis in children coming from tubercular families do hereby urgently request that the Board of Supervisors take immediate action to provide a separate building for the care of these children."

The next meeting will be held in July and will be in the form of a picnic at Champion Beach. The Dental Society will be cordially invited to meet with us at this time.

Russell L. Finch, Secretary.

AS THE SCIENTIST VIEWS EVOLUTION

Medicine is a branch or specialized department of the biological sciences, namely the biology of the human animal. Among the approximate eleven thousand members of the American Association for the Advancement of Science are the names of a large number of physicians, both those in active practice and holding full time professorships in medical colleges. Since opposition has been offered to the teaching of evolution, the following recent opinions of men very prominent in the scientific world are presented. In his annual address at the Nashville meeting of the American Association for the Advancement of Science, President A. A. Noyes says: "In the meantime in the biological sciences the existence of evolution as a fundamental phenomenon of life was established by converging evidence from paleontology, embryology, genetics, and comparative anatomy, with a certainty comparable with that of the Copernican conception of the solar system. While even less can be said today of the processes by which evolution takes place than was thought to be known fifty years ago, the facts that evolution has been going on and that many animal and plant types have gone through definite stages of development can only be doubted by an individual who like an ostrich buries his head in the sand out of a vague dread that he may see something shocking."

Science Service is authority for the following: "The meaning of evolution is probably more misunderstood than any doctrine of science. The misunderstanding has arisen from ignorance of the subject, from misinterpretation of the statements of scientific men, and from what may be called a medieval attitude of mind. It has been a shock to educators to realize that there still remains such a mass of untrained minds that can be imposed upon by eloquent ignorance."

With these sentences Prof. John M. Coulter of the Boyce Thompson Institution, Yonkers, N. Y., and formerly head of the botany department at

the University of Chicago, opened his lecture here this evening, at the New York Botanical Garden.

Opponents of evolution who state that the doctrine has been cast aside by scientists are either self-deceived or deliberately deceiving others, Prof. Coulter declared. What is being cast aside is not the idea of evolution itself, but many of the formerly accepted explanations of how it came about. Evolution becomes more firmly entrenched every day in the minds of scientists as new facts continue to accumulate, but while these new facts make the probability of the evolutionary process ever stronger, they are themselves so many and present such complicated problems that the question of how evolution happens becomes ever more difficult to answer.

The teaching that acquired characters can sometimes be inherited, long denied, is now beginning to find friends again, Prof. Coulter stated. This doctrine of evolution was advanced by Lamarck, long before Darwin's time, but seemed to have been shoved aside by Darwin's alternative doctrine of constant, small, spontaneous variations acted upon by the process of natural selection. The force of natural selection is still admitted, at least in part, but the usefulness of small variations has been called in question by many biologists.

The mutation theory of DeVries, which substitutes sudden origins of new forms at a single leap for the slow variations conceived by Darwin, is still widely accepted, but doubts have been thrown on its validity in many instances, and even its own author has accepted some cases of apparent mutations as being due to the sorting out of hybrid characters.

Yet in spite of all doubts and questions as to method, the fact of evolution remains unshaken, the speaker declared. With evolution, the living world is a single unified picture; without it, creation is chaos, and no single fact has any necessary relation to any other fact.

In conclusion, Prof. Coulter cited the great practical value which the study of evolution has had in its applications to the bread-and-butter problem of agriculture.

"The statement was made that during the 10 years preceding the great war our population had increased 20 per cent and our food production about 1 per cent. It was certainly an alarming outlook," said Prof. Coulter. "Under these circumstances plant crops began to be studied from the standpoint of genetics, and plant breeding became a science."

"The lack of crop production arose chiefly from three causes, namely, lack of adaptation of crops to environment, destruction by drought, and destruction by disease. The same races of plants were being cultivated everywhere, and only in certain places was the maximum result obtained. A study of races of crop plants throughout the world, and of the environment necessary for maximum yield, resulted in such an adjustment of crops to conditions that total food production was enormously increased."

"The problem of drought is being rapidly solved by the discovery or development of drought resistant races, not only insuring against loss from this cause, but also enormously increasing the possible area of cultivation."

"The problem of disease has been attacked in the same way, and disease resistant races of most of the important crops have been developed, much reducing loss from this source."

"As a result, food production is now beginning to overtake population, and we may thank the persistent study of evolution for the result."

BOOK REVIEWS AND MISCELLANY

Offering Suggestions and Recommendations

LOCAL ANAESTHESIA—A Short Course for Students and Surgeons—Geza de Takats, M. D., M. S., Assistant Professor of Surgery, Northwestern University Medical School, with a foreword by Allen B. Kanavel, A. B., M. D., D. Sc., Professor of Surgery, Northwestern University Medical School. Illustrated. W. B. Saunders Company, Philadelphia and London, 1928.

This work is, as its subtitle implies, a short course in local anaesthesia for students and surgeons. The reviewer has followed out the methods taught and his testimony as to the practical value of the book is very favorable. To those doing minor surgery or operative work which lends itself to local anaesthesia this work is strongly commended.—W. D. B.

A BOOK FOR US DIABETICS AND OUR DOCTORS—Don H. Duffie, M. D., of South Lancaster, Mass., U. S. A. Published by the author. Price \$1.50.

This is a book for the diabetic patient. It is well illustrated and printed in large, clear type that makes easy reading, and we had almost said in words of one syllable, however, that is probably going too far. It is free, however, from technical language. The little book, we feel, would serve a useful purpose, especially in the hands of an intelligent diabetic who appreciates his condition sufficiently to co-operate with his physician. Dr. L. H. Newburgh of the Medical Department of the University of Michigan has written a foreword in which he concludes "By the use of this book nearly every diabetic should be able to learn those things which will make it possible for him to live his normal life in spite of his disease."

PHYSICAL DIAGNOSIS—W. D. Rose, M. D., Associate Professor of Medicine in the University of Arkansas, Little Rock, Ark. Fifth edition; 310 illustrations and three color plates. C. V. Mosby Company, St. Louis, 1927. Price \$10.00.

This text book is intended for the use of the medical student and the general practitioner. The author has revised the work and given particular attention to the heart stressing the manifestations of early cardiac insufficiency.

SPECIAL CYTOLOGY—THE FORM AND FUNCTIONS OF THE CELL IN HEALTH AND DISEASE—A textbook for students of Biology and Medicine by Doctors Leslie B. Arey, Percival Bailey, R. R. Bensley, C. H. Bunting, Alexis Carrel, A. E. Cohn, G. W. Corner, E. V. Cowdry, Hal Downey, G. Carl Huber, J. Albert Key, E. B. Krumhaar, Albert Kuntz, Leo Loeb, C. C. Macklin, M. T. Macklin, E. F. Malone, Frank C. Mann, David Marine, A. A. Maximow, Edward B. Meigs, C. W. Metz, W. S. Miller, Eugene L. Opie, Wilder Penfield, A. T. Rasmussen, J. Parsons Schaeffer, G. E. Shambaugh, P. G. Shipley, G. N. Stewart, Charles R. Stockard, D. L. Stormont, Frederick Tilney, T. Wingate Todd, G. B. Wislocki. Edited by Edmund V. Cowdry. Two volumes, large octavo, 1376 pages, with 693 illustrations. Handsomely bound in waterproof sturdite. Price \$20.00 net. Paul B. Hoeber, Inc., publishers, 76 Fifth avenue, New York.

This unique contribution to the knowledge of the form and function of the cell in health and disease, is a welcome addition to medical literature. The animal cell has long been recognized as the all important unit in the animal organization, but it has been only within the last two decades that the cell itself has been the subject of critical examination from the standpoint of structure, contents and function.

The newer cytological concept indicates the cell not merely as a little bag of living jelly, but as a microcosm whose complex structure exhibits a specific organization, each of the component parts having an important bearing on intra and intercellular regulation. As instance of this, it might be pointed out that the non-nuclear cytoplasm of a gland cell possesses a small network of fatty protoplasm—the Gogli apparatus—which is closely related with the secretion process of the cell. In the thyroid gland this structure migrates from one pole of the cell to the other, depending on whether colloid is being formed in the gland or secreted into the blood stream. It is an intracellular organ for secretion. Then there are minute bodies called mitochondria which seem to increase and decrease in number according to the phase of cell function. Attention might also be called to chromidal substance and the formations of stored material. Certain pathological conditions which may not distort the histologic appearance of a tissue are associated with specific anomalous intracellular phenomena.

Cytologists and microchemists have investigated the physical and chemical aspects of the living cell as well as the preserved material. Stains have been perfected which will stain the living cell and not interfere with its function. Through their application the metabolism of the individual cell has become an object of study. It has been possible to operate on living cells to remove parts and to inject foreign materials. The chemistry of the intracellular fibrils of nerve, muscle and connective tissue and the secretions of bone, skin and cartilage cells has accumulated much of interest in the economy of the organism.

Few of these data have been available to the physician as the literature is scattered and there have been no summaries. Dr. Cowdry and his co-authors have performed an important service in this the compilation of information. The physiology and pathology of the tissue groups have been stressed as a fundamental theme so that the book is designed to appeal to the medical practitioner. The thirty-seven sections are logically grouped according to the organ systems with which they deal. An ample index renders any point of detail available in a moment. The general physician will find this cytology a valuable addition to his library; the dermatologist, endocrinologist, hematologist, neurologist and cardiologist will likewise find much in it of use.

Authenticity is derived from the carefully selected list of contributors who rank among the foremost men in the American medical schools.—W. T. D.

CRAWFORD W. LONG, THE DISCOVERER OF ETHER ANAESTHESIA—Frances Long Taylor, with a foreword by Francis R. Packard, M. D. With eight full page plates. Paul B. Hoeber, Inc., New York.

This is an interesting and affectionate biography of Dr. Long by his daughter. It is an account of Dr. Long's early work in connection with the discovery of the anaesthetic properties of sulphuric ether. Packard in his introduction says "that Crawford W. Long was the first man to use

ether for the purpose of producing surgical narcosis, and W. T. G. Morton was the first to demonstrate its use before a professional gathering." Besides the importance of the work as a medical biography, we have an intimate picture of social conditions both before and following the Civil War.

RECENT ADVANCES IN BIOCHEMISTRY—John Pryde. Second edition, 379 pages, 38 figures. P. Blackiston's Son & Co., Philadelphia, 1928.

This revision of Professor Pryde's work adds to the first edition the progress of the past two or three years in the rapidly growing field of physiological chemistry. The book is in no sense a textbook or reference book but rather a delineation of recent concepts in biochemistry. The reader will find a clear and concise summary of the latest researches on the chemistry of animal life. There are chapters on tyrosine, nucleoproteins, vitamins, haemoglobin, chemotherapy and immunological reactions.

THE USE OF SYMPTOMS IN THE DIAGNOSIS OF DISEASE—Hobart Armory Hare, B. Sc., M. D., L. L. D., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; ninth edition, thoroughly revised. Illustrated with 124 engravings and four plates. Lea and Febiger, Philadelphia.

In this day and age of the development of laboratory technic it is refreshing to read such a book as this which lays stress upon the objective manifestations of disease as observed in the patient himself. The author has wisely omitted any mention of laboratory aids to diagnosis which are so well taken care of in a number of first class text books. We have here an evaluation of symptoms by a master. Dr. Hare has been a long time before the medical profession in the capacity of author on clinical medicine and on therapeutics. The fact that the present work is now in its ninth edition would testify to its popularity with the medical profession if nothing further were said. The plan of the book is commendable as well as simple. Symptoms are discussed first, dealing with them regionally, namely the face and head, the hands and arms, the feet and legs, the skin, the tongue, mouth, pharynx, esophagus and abdomen and abdominal viscera. Then finally is a discussion of such manifestations as chills, fever, headache, vertigo, coma, pain, cough, exportation, tendon reflexes and muscle tone. The author has been guided by the following bit of philosophy: "In the diagnosis of disease it is essential that the physician rests his opinion not upon one or two symptoms, but upon a series of symptoms which when properly put together give him a complete or nearly complete picture of the malady." This work is well written and well illustrated. It is unique of its kind and will be welcomed by those who would keep alive the art of medicine.

INTERNATIONAL CLINICS—Volume 1, thirty-eighth series. March, 1928. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. J. B. Lippincott Company, New York.

In medical history there is an appealing article entitled "The Renaissance," by Dr. John R. Oliver. For those interested in the use of light, the article entitled "A Quarter of a Century in Light Treatment at the London Hospital," by W. J. O'Donovan, will be of interest. Dr. Lewellys F. Barker of Baltimore discusses intestinal amoebiasis and syphilis in the same patient. For the surgeon, "Uterine Fibroids," by Dr. John B. Dawe and "Operations and Demonstrations at the Chirurgische Universitäts Klinik, Frankfurt-on-Main,"

by Prof. Victor Schmeder. The 1927 Mutter Lecture of the College of Physicians of Philadelphia is given by E. Starr Judd, M. D., his topic being "The Pathogenesis of Gastric and Duodenal Ulcers." There is a resume of the progress of medicine during 1927 and many other interesting and instructive articles which help to keep the busy doctor up to date.

STRABISMUS, ITS ETIOLOGY AND TREATMENT—Oscar Wilkinson, A. M., M. D., D. Sc. Surgeon in Chief of Washington Eye and Ear Hospital, Washington, D. C. Illustrated. Price \$10.00. C. V. Mosby Company, St. Louis.

This volume digests the published workable knowledge on the subject. The author combines this with his own practical experience and so produces a treatise on this important division of ophthalmology which makes the book a valuable reference.

GYNECOLOGY FOR NURSES—Harry S. Crossen, M. D., F. A. C. S., Professor of Clinical Gynecology, Washington, University Medical School, St. Louis. 365 illustrations, including one color plate. Price \$2.75. The C. V. Mosby Company, St. Louis.

This work is for nurses and as such admirably fulfills its purpose. A brief account is given of the anatomy and physiology of the pelvic organs. The details of gynecological nursing are dealt with at length. It will be found not only a suitable text book for nurses in training, but it is a valuable reference work for the office nurse of the gynecologist.

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In many cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

SEX AND DIGESTIVE ORGANS ARE PRINCIPAL PREY OF CANCER

"If, in some manner or other, malignant tumors of the alimentary tract and of the reproductive organs could be prevented, cancer would retire at once to a relatively unimportant place among the causes of death."

This statement was made by Dr. Raymond Pearl, director of the Institute for Biological Research of the Johns Hopkins University after the completion of a statistical survey, made by himself and Miss Agnes Latimer Bacon, on necropsies performed on fatal cancer cases in the Johns Hopkins Hospital.

In summarizing the results of the survey, a report of which will appear in a forthcoming issue of the Archives of Pathology, he stated that in men, malignant tumors occurred more frequently than anywhere else in the organs of digestion, such as the stomach, intestines, gall bladder and liver. In the women the cancers were found in the productive organs. These conditions are in general agreement with the cancer figures of the U. S. Census Bureau, he pointed out.

"The greatest discrepancy between the general population and the necropsy statistics is in respect of cancer of the skin," added Dr. Pearl. "Patients with cancer of the skin die at home rather than in a hospital relatively more frequently than do patients with cancer of any other organ system. This fact means that such cases tend to be under-represented in necropsy statistics. The patient who enters a hospital with cancer of the skin in an early stage is discharged

cured. But for the patient who lets his cancer of the skin go without treatment, or with the supposedly palliative treatment of quackery, until it is destined shortly to be fatal, a hospital has little to offer."

From these studies it appears that more of the different organ systems of the body are susceptible to cancer in white people than in colored. On the other hand a relatively larger proportion of the cancers of colored people occur in the digestive system and in the reproductive system than is the case in whites. The average age at death of people with tumors that had produced secondary growths or metastases, as they are known to medicine, was found to be from one to three years earlier than in cancer cases without such secondary growths.

POST-MORTEM STUDIES ON DEAFNESS URGED

Members of the medical profession are striving to break down prejudices against post-mortem examinations. The American Medical Association has called attention to the particular need for post-mortem studies on diseases of the ear because many of the cases of deafness are still unknown. A research committee of the Association for the Hard of Hearing is making an earnest effort in this connection to have persons suffering from deafness indicate their desire that examination be made of their ear mechanism after death. In this way, it is hoped, some new light may be shed on many problems of the ear not yet uncovered by scientific research. The medicine of antiquity was at a standstill for ages on account of lack of knowledge of human anatomy, brought about by fixed racial prejudices against examination of the body after death. Consequently the necessity of more necropsies is strongly urged "that these dead shall not have died in vain." Minneapolis has an especially valuable record in this respect, higher, it is said, than that of any other city of its size in the United States. Some 1,400 necropsies were made in 1927 constituting about 19 per cent of all deaths occurring during the year in a city of approximately half a million people.—Science Service.

PARATHYROID GLAND CONTROLS SEX RATIO

The parathyroid gland apparently has a good deal to do with determining the sex of unborn offspring, according to the results of experiments reported by Dr. Simon B. Chandler of the Loyola University School of Medicine, Chicago, before the meeting of the American Association of Anatomists at Ann Arbor. Dr. Chandler removed this gland from a considerable number of rats of both sexes. Some of these he mated with each other, and others with normal rats. As a control, he mated a number of normal rats with each other. Then he checked up on the sexes of their young ones. The normal rats produced approximately equal numbers of male and female infants, as might have been expected. Those deprived of their parathyroid glands, however, showed upsets. From matings in which both parents had been deprived of their glands he got 32 males and 17 females, a ratio of nearly 2 to 1. From crossings of a normal male with an operated female, he got 18 male offspring and

only 8 female, a ratio of more than 2 to 1. It therefore appears that the presence of the secretion of the parathyroid gland in the mother increases her chance of producing daughters.—Science Service.

BRAINS OF GENIUS STUDIED

The brains of the great do not vary so greatly from those of the common or garden variety as was once believed. Post-mortem examination of the brains of G. Stanley Hall, eminent psychologist, Sir William Osler, for many years an outstanding figure in the field of medicine, and Edward S. Morse, widely known naturalist and zoologist, did not show striking variations from the normal, Dr. Henry H. Donaldson of the Wistar Institute of Anatomy and Biology told members of the National Academy of Sciences. They were, however, slightly heavier than the brains of more nearly average individuals studied for comparison. "The variations in the form of the convolutions," said Dr. Donaldson, "may mean something, but they do not explain that for which explanation is sought, for in their fundamental structure human brains are remarkably alike, and the variations in the convolutions are incidental, as the several measurements show."—Science Service.

EPILEPSY PRODUCED ARTIFICIALLY

A step toward an understanding of the nature of epilepsy, one of the most baffling of all human ills, was reported at the meeting of the American Association of Anatomists by Dr. Lawrence O. Morgan, of the University of Illinois College of Medicine. By surgical procedure, Dr. Morgan produced lesions in certain parts of the cerebrum, or forebrain, in dogs. The animals recovered from the operation, and their conduct most of the time was normal. But periodically they went into fits which in all essential respects were identical with those characterizing human epilepsy. An examination of the brains of four human beings who in life had been subject to epileptic seizures showed abnormalities of the organ of the brain corresponding to the areas where the artificial injuries had been produced in the dogs.—Science Service.

BRAIN WORKERS ARE RESTLESS SLEEPERS

Middle aged men who are engaged all day in absorbing intellectual work are more restless sleepers than their wives who keep house and play bridge, the National Academy of Sciences was told today. Dr. H. M. Johnson, of the Mellon Institute of Industrial Research at the University of Pittsburgh, presented a report of his latest experiments in sleep. A sleeper sinks to a state of minimum activity about 30 to 45 minutes after retiring, Dr. Johnson has found. For the rest of the night there is a regular wave-like alternation of stirring and quiet. A marked difference has been found in the sleeping charts of people of different vocations. The middle aged brain workers whose sleep was measured were more restless sleepers than 75 per cent of college boys, and they were more restless than skilled machinists. Children also move about more than the average college student.—Science Service.